IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ACUITY BRANDS LIGHTING, INC., Plaintiff/Counterclaim Defendant, vs. ULTRAVISION TECHNOLOGIES, LLC, Defendant/Counterclaim Plaintiff.	Civil Action No. 1:19-cv-2207-MN **JURY TRIAL DEMANDED**

JOINT CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTIONS

A. Ultravision's Opening Introduction

Pursuant to this Court's Scheduling Order, Ultravision Technologies, LLC ("Ultravision") hereby submits its Opening Claim Construction Brief regarding the asserted claims of U.S. Patent Nos. 8,870,410;[1] 8,870,413; 9,734,738; 9,947,248; and 10,223,946 (collectively, "Patents-in-Suit"). The Patents-in-Suit are attached as Exs. 1-5, respectively.

Five of the ten term groups at issue here have already been construed once in *Ultravision Technologies, LLC v. Holophane Europe Limited, et al.*, Case No. 2:19-cv-00291-JRG-RSP, Dkt. 111 (E.D. Tex., Oct. 2020) (the "Texas Action"), *aff'd sub nom id.* at Dkt. 111. Ex. 6. Acuity repeats several arguments that the Court rejected in the Texas Action, including both of its indefiniteness positions which the Court addressed at length. *See* Ex. 6 at 15-21 (rejecting Defendants' arguments that uniformity terms are indefinite); *id.* at 37-41 (rejecting Defendants' arguments that [optics panel is configured to be attached to] a heat sink comprising a power supply enclosure disposed on the heat sink" is indefinite). Acuity's new constructions for the remaining terms improperly seek to import limitations from the specification into the claims contrary to established case law.

Ultravision filed the provisional patent application leading to the Patents-in-Suit on July 30, 2012. All of the Patents-in-Suit are based on the same specification which thus far has resulted in at least 24 issued patents.

The Patents-in-Suit describe an LED lighting apparatus that has several advantages over the prior art. In describing problems in the prior art, one problem "is that it can be difficult to direct light only onto the surface [] and even more difficult to do so evenly." Ex. 1 at 2:49-51.

[1] Unless otherwise noted, all citations will be to the '410 patent.

"One problem with uneven illumination is that certain parts of the surface [] may be more brightly illuminated than other parts. This creates 'hot spots' that may be undesirable." *Id.* at 2:55-58. The Patents-in-Suit also recognize additional challenges regarding heat dissipation and protecting the LEDs from environmental conditions such as moisture. *Id.* at 2:67-3:1.

To solve these problems, the Patents-in-Suit disclose an exemplary lighting assembly illustratively shown in Figure 6A. Structurally, the embodiment shown in FIG. 6A shows a lighting assembly 600 that includes a back panel 602, to which is attached to multiple LED assemblies and an optics panel formed by multiple lens panels 604. *Id. at* 6:53-64. In discussing the lens panel more specifically, the Patents-in-Suit disclose an exemplary lens panel that may include multiple optical elements in Figure 5A.

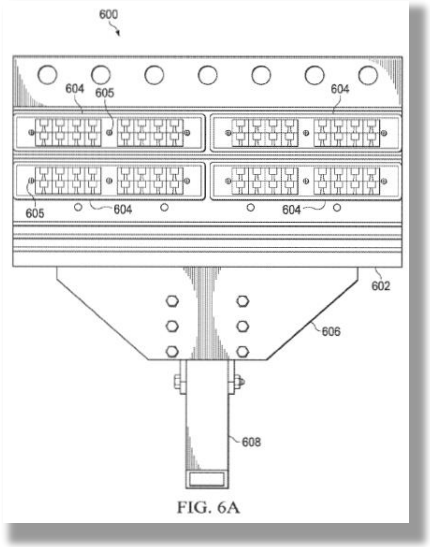


FIG. 6A

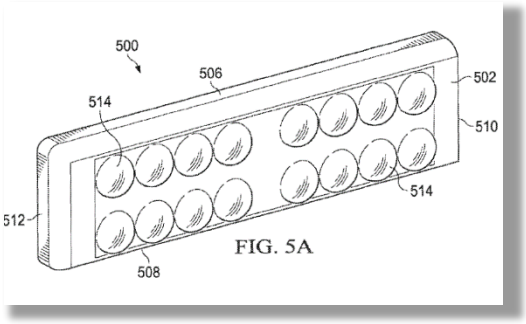


FIG. 5A

Figure 5A discloses an exemplary lens panel 500 that includes multiple optical elements 514. A single optical element 514 may be provided for each LED, or multiple LEDs, or multiple optical elements may be used over a single LED. *Id.* at 4:64-5:3.

The optical elements 514 are configured to provide several functional advantages of the projected light. The light from each LED is projected onto the entire surface of the desired target area (which, as described in an embodiment in the specification, is a billboard). *Id. at* 5:4-9.

Therefore, when a single LED fails, the *overall* illumination decreases ever so slightly, but the uniformity of that illumination remains unchanged. *Id.* at 5:19-21.

B. Acuity's Answering Introduction

The Patents-in-Suit are directed to assemblies and products for illuminating signage. '410 Patent, 1:12-14 ("The following disclosure relates to lighting systems . . . using [LEDs] to externally illuminate signs.") and 2:6-9 ("Although billboards are used herein for purposes of example, it is understood that the present disclosure may be applied to lighting for any type of sign that is externally illuminated."). Yet, with a few exceptions, Ultravision argues for the broad or non-constructions that are necessary for it to pursue infringement against a wide variety of outdoor lighting products designed to illuminate sidewalks, parking lots and streets, rather than signage. Ultravision's arguments will be shown to be wholly-divorced from the intrinsic record and in many instances, the claim language itself.

It is telling that Ultravision's arguments are contradicted by its own arguments in *Ultravision Technologies, LLC v. Lamar Advertising Co.*, et al., C.A. No. 2:16-cv-374 (E.D. Tex.) ("*Lamar* case"), which involved patents that share a common specification with the Patents-in-Suit, including the '410 and '413 Patents asserted against Acuity. In the *Lamar* case, Ultravision argued that the patented technology was unquestionably limited to LED lighting for billboards:

> The Patents-in-Suit relate to LED lighting assemblies for billboards…. Generally speaking, the asserted claims speak to the illumination of billboards with LED lighting assemblies. The asserted claims relate to the LED lighting assemblies used to light the billboards as well as the optical elements (i.e., lenses) used in the LED lighting assemblies to create uniform illumination of the billboard surface.
>
> The patented technology provides a number of benefits—both in the quality and economics of billboard lighting. [. . .] Ultravision's designs use novel optical elements (lenses) to direct the light emitted from LEDs to light the billboard, as opposed to using reflective mirrors or other ways of aiming light. Ultravision's LED billboard lights uniformly distribute light from a number of LEDs onto the flat surface of a billboard to minimize "hot spots" or "dark spots," which are areas of a billboard that are brighter or darker, respectively, than other areas of the same

> billboard in low light conditions and at night. Both "hot spots" and "dark spots" limit the very purpose of billboard advertising—visibility and legibility of the advertising content, both written and visual. Ultravision's LED billboard lights also reduce light spillage beyond edges of the billboard, which not only conserves energy but also limits irritating or environmentally undesirable light pollution. Finally, Ultravision's LED billboard lights overcame the life shortening problem of dissipating the substantial heat generated by the LEDs.

Ex. B, *Lamar* Op. Br. at 1-2. Here, Ultravision attempts to walk away from its prior arguments and the intrinsic record because Ultravision is not accusing signage lighting. Ultravision's arguments, which would have the Court view the disputed terms in isolation or divorced from the relevant intrinsic record, should be rejected in favor of constructions that reflect how a skilled artisan would understand the terms in view of the claims and the applicant's explanation of the allegedly novel invention.

II. LEVEL OF SKILL IN THE ART

A. Ultravision's Level of Skill In the Art

Ultravision proposes that the person of ordinary skill in the art would have a Bachelor of Science degree in electrical engineering, physics, optics, or its equivalent, with approximately two years of design experience in the field of LED lighting. Additional education would compensate for less experience, and vice-versa. Ex. 8, Dr. Coleman Decl., ¶ 22.

B. Acuity's Level of Skill In the Art

A skilled artisan would have had at least a bachelor's degree in physics, engineering, or a related technical field, and at least 3-4 years of experience in the field of light emitting diode (LED) devices, or an equivalent advanced education in the field of LED devices. Ultravision's contention is similar, but with less years of design experience. Acuity contends that the difference in years of experience should not alter the Court's analysis.

III. AGREED-UPON CONSTRUCTIONS

Claim Term	Joint Proposed Construction
"acrylic material" / "acrylic material substrate" ('410 Patent, claim 15; '413 Patent, claims 4, 10, 12)	"material containing primarily acrylates" / "substrate containing primarily acrylates"
Preambles "An optics panel for use in a light emitting diode (LED) lighting assembly comprising" / "An optics panel for use in a light emitting diode (LED) lighting assembly for illuminating a billboard that has a display surface extending between outer edges of the billboard, the optics panel comprising" ('410 Patent, claims 1, 10, 15; '413 Patent, claims 1, 5, 11)	The preambles are limiting.
"substantially transparent" ('410 Patent, claim 1; '413 Patent, claims 5, 11)	"transparent"
"predetermined bounded area" ('410 Patent, claim 1)	"area determined by the dimensions of the [display surface]" The parties agree that the Court's construction of "display surface" shall be applied to this construction.
"substantially the entire display surface" ('410 Patent, claim 1, 15)	Plain and ordinary meaning, where the plain and ordinary meaning is "the entire display surface"

IV. CLAIM CONSTRUCTION OF THE DISPUTED TERMS

A. Term 1: Uniformity Limitations

Term	Ultravision's Proposal	Acuity's Proposal
Uniformity Limitations: "substantially uniform" /	"level of illumination that does not create noticeable unevenness in the overall	Indefinite

Term	Ultravision's Proposal	Acuity's Proposal
"substantially equal level of illumination" / "a uniformity . . . remains substantially unchanged" / "the uniformity of light . . . remains substantially the same." / "a uniformity of light . . . remains substantially the same." "a uniformity of light . . . remains substantially unchanged."	illumination, such as hot spots or dead spots"	

1. Ultravision's Opening Position

These terms were construed in the Texas Action to mean "level of illumination that does not create noticeable unevenness in the overall illumination, such as hot spots or dead spots." Ex. 6, 20. Ultravision proposes that the court in the Texas Action arrived at the proper construction. This construction requires that, to fall outside the scope of the claims, the unevenness to be "noticeable," and the person of ordinary skill in the art would understand in the context of this technology what is noticeable to an observer. *See* Ex. 1 at 6:12-30. Acuity's indefiniteness argument should be rejected here as it was in the Texas Action.

When considering the indefiniteness of a particular claim, the disputed term must be considered in the context of the overall claim as a whole and not in a vacuum. For example, Ultravision used the term "substantially uniform" in independent claim 10 (*Id.* at 9:5-17) of the '410 Patent, reciting:

> An optics panel for use in a light emitting diode (LED) lighting assembly for illuminating a billboard that has a display surface

> extending between outer edges of the billboard, the optics panel comprising:
>
> a plurality of LEDs directed toward the display surface; and
>
> a plurality of lenses, wherein each lens is disposed over only one associated LED and is configured to direct light from that LED toward the display surface, such that the light from each lens is directed across the entire display surface of the billboard, wherein the light intensity from each lens is **substantially uniform** across the entire display surface.

The context of the claim as a whole provides reasonable certainty to one of ordinary skill in the art about the scope of the invention because it describes in detail the structure used to reach the desired objective of "substantially uniform" light intensity across a display surface of a billboard. Specifically, the "wherein" clause in which the term "substantially uniform" is used speaks directly to the "light intensity" being described, the origin of the "light intensity" (*i.e.*, "from each lens"), as well as the target and location across which "the light intensity" is being directed (*i.e.*, "the entire display surface" of a billboard). Thus, the language preceding and following the term "substantially uniform" provides important context for how the term is used in the claim.

The specification further informs those skilled in the art about the scope of the invention. First, the specification explains how a person of ordinary skill in the art recognizes when the illumination is not uniform. The specification explains that prior art lighting technology made it difficult to direct light uniformly. *Id*. at 2:49–55. The specification explains that this uneven illumination creates "hot spots" (*i.e.*, bright spots) that are undesirable:

> One problem with uneven illumination is that certain parts of the surface 102 may be more brightly illuminated than other parts. This creates "hot spots" that may be undesirable. Attempting to evenly illuminate the surface 102 may cause light to be directed past the edges 112, 114, 116, and 118 as attempts are made to balance out hot spots in particular areas.

Id. at 2:55–61 (emphasis added). The specification further contrasts these "hot spots" with "dead spots" (*i.e.*, dark spots) on the billboard surface: "[t]he minimum distance is designed such that overlapping light from adjacent LEDs does not create interference patterns and result in dead spots on the surface." *Id*. at 5:33–35.

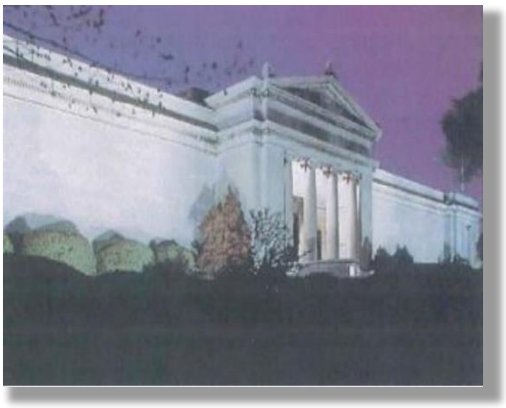
Second, the specification explains how the LED light assembly uniformly illuminates a billboard to avoid these hot spots and dead spots. The specification describes properly directing the illumination to "minimiz[e] any noticeable unevenness in the overall illumination, even if one of the remaining LEDs 416 malfunctions" to realize the benefit of overlapping and redundant coverage on the billboard. *Id*. at 6:21–23. And the specification describes and illustrates multiple embodiments of optical elements that are specifically designed to create the "substantially uniform" light intensity on the billboard surface. *See, e.g.*, *id*. at 5:37–38 ("the lens structure is designed to 'direct' the light from an edge of the surface to cover the entire surface"); Figures 5A–5D and 8D–8J. The specification further explains that light from the LEDs is directed by these optical elements "so that each LED illuminates substantially the entire surface with a *substantially equal level of illumination* per LED." *Id*. at 1:27–29 (emphasis added). Taken together, these portions of the specification inform a person of ordinary skill in the art about the scope of the invention with reasonable certainty.

Therefore, the claims including the term "substantially uniform" are not indefinite because when "viewed in light of the specification and prosecution history, [the claim(s)] inform[(s)] those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910, (2014). The Texas Court agreed, reasoning:

> Here, the disputed terms are terms of degree. "Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention." *Interval Licensing*, 766 F.3d at 1370

> (citing *Eibel Process Co. v. Minn. & Ont. Paper Co.*, 261 U.S. 45, 65–66 (1923))… Like the disputed term "visually negligible" in *Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1378 (Fed. Cir. 2017), the Uniformity Terms involve what can be seen by the normal human eye. This provides an objective baseline through which to interpret the claims. It does not turn on a person's taste or opinion, and is not purely subjective. *Id.*

Ex. 6 at 18. Accordingly, Ultravision's proposed construction is proper, and the Uniformity terms are not indefinite.



Extrinsic evidence also supports Ultravision's position that this term is not indefinite. For example, IES Publication RP-33-99, *Lighting for Exterior Environments* (1999), Ex. 12, describes that "[i]t is often necessary to illuminate large vertical displays uniformly" and that "the lighting should provide even illumination over the entire surface." *Id.* at p. 34. It advises that one should "[c]arefully select floodlight luminaires which will not create 'hot spots' on the display." *Id.* And it even provides an example of the front façade of the Cleveland Art Museum as "an example of good vertical surface illumination that is uniform over the entire façade." *Id.* at 35. The extrinsic evidence shows that there is commonly understood criteria in the art for determining the uniformity of the light intensity for LED lighting in the context of noticeable unevenness, such as hot spots or dead spots on the surface that is being illuminated. Ex. 7, Coleman Decl., ¶ 39. Therefore, this term is not indefinite.

2. Acuity's Answering Position

These disputed phrases include the term of degree "substantially" that, when read in light of the intrinsic record, renders the phrases indefinite because it "fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig*

Instruments, Inc., 134 S. Ct. 2120, 2124 (2014); *see also* 35 U.S.C. § 112. The focus of the indefinite analysis is whether the common specification offers "objective boundaries" for the term *substantially*, yielding a "standard for measuring the scope of the phrase[s]" based on which a skilled artisan can determine with reasonable certainty when illumination is sufficiently uniform to qualify as substantially uniform, as claimed. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370-71 (Fed. Cir. 2014); *see also Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005), *abrogated on other grounds by Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901, 134 S. Ct. 2120, 2124, 189 L. Ed. 2d 37 (2014) (a patent "must provide objective boundaries for those of skill in the art."). The specification does not contain any such objective boundary or standard of measurement.

It is undisputed that "substantially" uniform is different and broader than "uniform." (Ex. A, Coleman Depo. at 33:2-9 (testifying that substantially uniform is broader). But it is unclear what level of uniformity is necessary for illumination to be considered substantially uniform or of a substantially equal level. While Ultravision argues that the specification explains how:

- "a person of ordinary skill in the art recognizes when the illumination is ***not uniform***" (Op. Br. at 7-8 ("uneven illumination creates "hot spots" (*i.e.*, bright spots) that are undesirable")); and
- "the LED light assembly ***uniformly illuminates*** a billboard to avoid these hot spots or dead spots" (*id.*),

Ultravision tellingly fails to identify what degree of "uniformity" is necessary to achieve substantial uniformity. That is fatal because "terms of degree" such as "substantially" should be found indefinite, if the patent, read in view of the prosecution history, does not "provide 'some standard' for measuring that degree such that the claim language 'provide[s] enough certainty to one of skill in the art when read in the context of the invention[.]'" *GE Lighting Sols., LLC v. Lights of Am., Inc.*, 663 Fed. App'x 938, 940–41 (Fed. Cir. 2016) (citations omitted) (holding the

term "elongated" indefinite); *see also Interval Licensing LLC.*, 766 F.3d at 1371. Subjective boundaries are not sufficient; the patent must provide "objective boundaries" so one can determine the scope of the claims and whether they are infringing. *Id*. at 940.

Here, there are no such "objective boundaries;" the specification does not provide any consistent and objective guidance according to which a skilled artisan would understand the degree of uniformity at which the light intensity across an illuminated surface is "substantially uniform." Instead, the intrinsic record only includes conflicting and subjective discussion of the prior art problem of hot spots, an aspiration goal of minimizing noticeable unevenness, and a 3:1 ratio of average-to-minimum illumination that can be helpful in assessing the presence of dark spots.

Ultravision sidesteps the issue created by the lack of objective boundaries by creating and then resolving a different strawman issue -- whether "a person of ordinary skill in the art recognizes when illumination is not uniform." *See* Op. Br. at 7-8.[2] Whether illumination is "uniform" is not the issue. The claims do not require uniform illumination; instead, they require something less and the question is whether illumination is sufficiently uniform to be considered substantially uniform / of an equal level. While the complete absence of "unevenness" might reflect uniformity, Ultravision's proposed reference to noticeable unevenness, such as hotspots and dead spots, does not provide an objective lower boundary for assessing substantial uniformity.

Ultravision's construction also is misplaced because it replaces indefinite phrases substantial [uniformity / equal level] with equally indefinite phrases, *i.e*., "noticeable

[2] Ultravision also relies on extrinsic evidence that discusses uniformity, not substantial uniformity, and in most instances post-dates the priority date by 6-8 years. *See* Op. Br. at 9 (citing IES RP-33-99) (describing uniformly illuminated vertical displays); Op. Br. at 9 (citing Coleman Decl., ¶ 39) ("extrinsic evidence shows there is commonly understood criteria in the art for uniformity"). Coleman Decl. ¶¶ 36-38 (citing 2017 & 2019 marketing material that does not reference substantial uniformity, and that Coleman testified a skilled artisan would not have reviewed (Coleman Depo. at 47:19 – 48:19 (Mongoose material), 53:5-16 (RSX material)).

unevenness . . . such as hot spots or dead spots." "Noticeable unevenness", "hot spots" (brighter than average illumination) and "dead spots" (darker than average illumination) are subjective and do not objectively define the contours of substantially uniform / equal illumination.

In fact, the specification does not use any of these terms to define an objective boundary for substantially uniform or equal illumination. The specification only discusses "hot spots" in the context of a prior art problem that is supposedly overcome by the claimed invention. '410 Patent at 2:55-61. Similarly, the specification only refers to "dead spots" once, and it describes them as being capable of being avoided by an undefined minimum distance between lenses. *Id*. at 5:33-35. Likewise, the specification uses only once the phrase "noticeable unevenness" and does so when discussing a characteristic that should be minimized. *Id*. at 6:18-23. An assessment of what is noticeable is indefinite because it is "purely subjective" and "depends on the unpredictable vagaries of any one person's opinion." *Intellectual Ventures I LLC v. T-Mobile USA, Inc., et al*, 902 F.3d 1372, 1381 (Fed. Cir. 2018).

These subjective terms are similar to those at issue in *Interval Licensing*, in which the Federal Circuit held that "unobtrusive manner" was indefinite. *Interval*, 766 F.3d at 1371-74. Like the Patents-in-Suit, the patent specification in *Interval Licensing* was equally subjective, explaining that displaying content in an unobtrusive manner meant that it "does not distract a user of the apparatus from a primary interaction with the apparatus." *Id*. at 1372. The patent specification, here, similarly does not describe or provide any measuring standard against which a skilled artisan can judge how bright is too bright (hot spots), how dark is too dark (dead spots) or the variables to be considered in assessing whether unevenness is noticeable (*e.g.*, viewed by whom, at what distance, in what background lighting conditions, etc.). These characteristics of

illumination are not defined by the intrinsic record and, therefore, do not provide a skilled artisan with objective boundaries for determining the scope of these claim limitations.

These problems with Ultravision's proposed construction were confirmed during the deposition of its claim construction expert. During that deposition, Dr. Coleman testified regarding the concept of an "ordinary observer" -- a hypothetical person that a skilled artisan would consider in her analysis of whether illumination is substantially uniform. (Ex. A, Coleman Depo. at 60:6 and 66:24; *see also*, Ex. 7, Coleman Decl. at ¶ 33).[3] According to Dr. Coleman, assessing substantial uniformity is a "visual assessment" and that assessment, presumably made by an ordinary observer, can be impacted by physical and environmental variables, such as the observer's quality of eyesight, the distance from the illuminated surface, and the level of background illumination. (Ex. A, Coleman Depo. at 61:21-23 (no age range identified), 62:9-12 (no quality of vision identified and does not necessarily need to be 20/20), 63:7-16 (quality of vision necessary would depend on level of unevenness), 65:2-6 (level of permissible background light could vary), and 65:7-25 (patent does not prescribe distance at which uniformity assessment should take place and distance impacts whether unevenness is noticeable). In Dr. Coleman's own words, "the patent does not define the requirements for the noticeable unevenness." (*Id*. at 63:7-8). There cannot be a reasonable dispute as to whether assessing the level of uniformity depends on the physical characteristics of an undefined person and environmental factors that introduce subjectivity into the assessment. It does, thus rendering the uniformity terms indefinite. *See, e.g*., *University of Massachusetts Medical School et al v. L'Oreal SA*, No. 1:17-cv-00868, D.I. 410 at 13 (Del. Apr. 20, 2021) (Judge Connolly) (claims lacking the objective boundaries are indefinite where

[3] Dr. Coleman may have borrowed the concept of an ordinary observer from the law of design patents, but neither Ultravision nor Dr. Coleman identify any support for using that concept to assess the definiteness of a claim term.

"[a]rtisans of ordinary skill seeking to avoid infringement of the asserted claims would have to guess about the opinions" of undefined persons; determining a "noticeable decrease" construction identified in the specification for the term "skin enhancement" was also indefinite); *Datamize,* 417 F. 3d at 1352-53 ("the definition of 'aesthetically pleasing' cannot depend on an undefined standard .... [Nor] depend on the defined views of unnamed persons, even if they are experts, . . .").

To further complicate this issue, the patent specification introduces uncertainty with respect to its discussion of a "3:1 ratio of the average illumination to the minimum [illumination]." *See* '410 at 5:14-16[4] and 5:36. While neither Ultravision nor its expert address the specification's discussion of the 3:1 ratio in the context of the uniformity terms, it is worth noting that this ratio is inconsistent with Ultravision's proposed construction. As Dr. Josefowicz (ABL's expert) explains, and Dr. Coleman (Ultravision's expert) concedes, a ratio of the average illumination to the minimum illumination can be used to assess the presence of darker spots, but not the absence of hot spots. Ex. C, Josefowicz Decl., ¶¶ 34-40; Ex. A, Coleman Depo. at 83:9-19 (testifying that a skilled artisan would not use the 3:1 ratio to determine the presence of a hot spot because that ratio is indicative of dark spots, rather than bright or hot spots). This is because a small, but bright hot spot could have a minimal impact on the average level of illumination and, therefore, its presence cannot be ruled out by comparing the average illumination to the minimum level of illumination. *Id*., ¶ 39. In that situation, the illumination would include a noticeable hot spot, yet it would still meet the 3:1 average to minimum illumination ratio. In fact, the Lighting Handbook identified and relied on by Dr. Coleman (Ex. 7, Coleman Decl., ¶ 83) proposes using an illuminance ratio of ***3:1 to highlight features*** in the foreground and draw the viewer's attention away from the darker background, *i.e*., to create a brighter spot on the featured image. *See* Ex. C,

[4] Dependent claims 4-5 of the '410 patent also specify a "3:1" average to minimum illumination.

Josefowicz Decl., ¶ 36; Ex. J, IES 10th at 12.7. This contradictory treatment of hot spots in the intrinsic evidence would further exacerbate the problem a skilled artisan would have in determining an object standard for assessing substantial uniformity with sufficient reasonable certainty. *See, e.g.*, *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335 at 1345 (Fed. Cir. 2015); *see also, e.g.*, *Nautilus*, 572 U.S. 898, 911("[W]e hold that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.").

Finally, Ultravision's inclusion of the phrase "level of illumination" in its construction creates further uncertainty. The claim limitations require substantial uniformity of illumination, regardless of the level of illumination. Ultravision's proposal, which makes the uniformity dependent on the level of illumination, *i.e.*, level . . . that does not create noticeable unevenness . . ." is not supported by the specification; is inconsistent with the claims; and adds yet another undefined variable that yields an indefinite claim scope.

3. Ultravision's Reply Position

Acuity has adopted an unreasonably narrow definition of the term "uniform" that its expert admits is unachievable in the real world. Ex. 24 at 31:6-11 ("Q:[S]o in order for a surface to be uniformly illuminated every single millimeter of that surface would need to have a precisely identical illumination, is that correct? A: That's right."); *id.* at 103:9-13 ("Q: Have you ever seen that level of uniformity provided by a single LED luminaire? . . . A: I have not seen it."). Acuity relies on this impossible standard to argue that anything besides perfect uniformity must be defined numerically to avoid indefiniteness. *See* Ex. 24 at 74:4-75:18 ("if you state uniform[,] to understand uniform you would need to see the photometrics for luminaire and the illuminance data for a surface that's being irradiated."). To the contrary, a POSITA would be reasonably certain

that "substantially uniform" illumination, as discussed in the Asserted Patents, refers to a "level of illumination that does not create noticeable unevenness in the overall illumination, such as hot spots or dark spots." *See* Brief at 6-9.

Acuity is also incorrect that the term "substantially" renders these terms indefinite merely because it is a term of degree. *See Ortho-McNeil Pharm., Inc. v. Caraco Pharm. Labs.*, Ltd., 476 F.3d 1321, 1326 (Fed. Cir. 2007) (holding that words like "approximate" and "about" may appropriately be used to "avoid[ ] a strict numerical boundary to the specified parameter."); *see also Max Blu Techs., LLC v. Cinedigm Corp.*, 2:15-CV-1369-JRG, 2016 WL 3688801, at *30 (E.D. Tex. July 12, 2016). Acuity relies on *GE Lighting* to argue that the intrinsic record must "provide some standard for measuring that degree," but there is no requirement that the standard be numerical. *GE Lighting Sols., LLC v. Lights of Am., Inc.*, 663 Fed. App'x 938, 940–41 (Fed. Cir. 2016) ("[A] patentee need not define his invention with mathematical precision") (citing *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1384 (Fed. Cir. 2005)). Contrary to Acuity's position, when a word of approximation is used, the term will not be indefinite if the intrinsic record renders the term reasonably certain. *Id.* Here, the specification provides that context in discussing uniformity that it results from configuring the optical elements so that light emitted from each LED is projected on the entire surface of the billboard which results in the absence of hot spots and dead spots in uniform illumination. Ex. 1 at 2:55-61, 5:33-35.

Acuity is also incorrect that the visibility of hot spots or dead spots is a "subjective" standard. Acuity's argument boils down to the assertion that a level of "noticeable" unevenness could differ based on observers or conditions. But, as the Texas Court noted, "the Uniformity terms involve what can be seen by the normal human eye. This provides an objective baseline through which to interpret the claims. It does not turn on a person's taste or opinion, and is not purely

subjective." Ex. 6 at 18. Dr. Coleman's opinions regarding substantial uniformity visible to an "ordinary observer" apply the same objective standard, *i.e.*, what is visible to a normal human eye. Ex. 7, ¶ 33. The existence of variables like ambient light do not somehow render what is visible to a normal human eye subjective, nor would they alter a POSITA's reasonable certainty over what is noticeable to a normal human eye.

Acuity argues that this term is indefinite because illumination with a 3:1 ratio can have dark spots or bright spots. But Acuity mistakenly assumes that "uniformity" *requires* a "3:1 ratio of the average to the minimum [illumination]," even though the 3:1 ratio is an *additional* limitation in dependent claims. *See, e.g.*, Ex. 1, claim 5 ("wherein the uniformity ratio is 3:1"); *see also* claims 14, 21. Acuity argues from the false premise that uniform illumination must satisfy *both* limitations in order to be uniform. Acuity is incorrect as a matter of claim construction because the claims themselves distinguish between requirements for uniformity and illumination ratios. *See, e.g., Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (explaining that use of "steel baffles" and "baffles" implied that "baffles" did not inherently refer to objects made of steel).

Accordingly, a POSITA would be reasonably certain that the uniformity terms mean a "level of illumination that does not create noticeable unevenness in the overall illumination, such as hot spots or dead spots."

4. Acuity's Sur-Reply Position

Ultravision's Reply merely repackages the strawman arguments raised in its Opening Brief.

Substantial uniformity is something less than uniform and has two boundaries: (1) an upper boundary (between uniform and substantially uniform) and (2) a lower boundary (between substantially uniform and too non-uniform to be characterized as substantially uniform). Both boundaries must be objective or subject to a standard of measure provided by the intrinsic record.

Here, Acuity contends that the second, lower boundary is not objective and the intrinsic record does not provide a standard of measure from which a skilled artisan can assess the boundary with reasonable certainty. Ultravision's Reply does not identify an objective boundary or standard for measuring the lower boundary. Instead, Ultravision's arguments focus on the upper boundary, and then Ultravision tries to justify its indefinite construction.

First, the parties agree that uniform and substantially uniform are different and substantially uniform encompasses some amount of non-uniformity. Ex. A, Coleman Depo. at 33:2-9. Thus, whether it is complicated to design a luminaire to provide uniform illumination is not relevant to this claim construction dispute. Substantial uniformity starts with a non-uniformity, regardless how hard it may be to achieve uniformity and, therefore, the question at hand is: where does substantial uniformity end? The intrinsic record does not answer that question with reasonable certainty. The patent does not provide any objective boundary against which to measure the second, lower boundary of substantial uniformity and that is the source of its indefiniteness. Both experts' testimony confirms that uncertainty and that an assessment of substantial uniformity depends on environmental conditions and the eye of the beholder. *See* Response at 13-14 (citing Coleman testimony) and Ex. C, Josefowicz Decl. at ¶¶ 28, 42-43.

Rather than attack this flaw head-on, Ultravision mischaracterizes Acuity's argument. Acuity does not contend that the term substantially is indefinite "merely because it is a term of degree" or "the standard be numerical", as Ultravision argues in its Reply at 16. Instead, a term of degree is indefinite if the intrinsic record does not identify an objective boundary or standard for measuring the boundary. Response at [3]. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) ("The claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art."). The nature of that

boundary or standard of measure, obviously, is dictated by the particular term of degree. Here, the specification does not provide any objective boundary or measuring stick to assess whether a non-uniformity is sufficiently uniform to be characterized as substantially uniform.

Ultravision next mischaracterizes the case law to justify or excuse the absence of an objective criteria in the specification. First, Ultravision cites *Ortho-McNeil Pharm., Inc. v. Caraco Pharm. Labs., Ltd*. for the proposition that terms like "about" may be used to avoid strict numerical boundaries to the specified parameter. Rep. Br. at 16 (citing 476 F.3d 1321, 1326 (Fed. Cir. 2007)). *Ortho* is easily distinguishable because, unlike here, the "about" term modified a numerical value in the claim (*i.e*., "about 1.5"). *Ortho* at 1326. Moreover, the Federal Circuit still required intrinsic and extrinsic support for what the range might actually be. *Id*.

Ultravision also cites *GE Lighting Sols., LLC v. Lights of Am., Inc*., for the proposition that the intrinsic record doesn't require a numerical value. Rep. Br. at 16. Again, Acuity does not contend that the objective boundary must be a numerical value — it just needs to be objective. *See Exmark Mfg. Co. Inc. v. Briggs & Stratton Power Products Grp., LLC,* 879 F.3d 1332, 1346 (Fed. Cir. 2018) (in *GE Lighting Solutions* "nothing in the patent at issue provided any objective boundaries for the term 'elongated' which is why it was indefinite.").

Ultravision's next argument makes a failed attempt to create certainty around its proposed construction, which is comprised of plainly indefinite terms (*e.g.*, "noticeable unevenness", "hot spots" and "dead spots").[5] Acuity's Response at 13-14 details why those terms are subjective and that subjectivity is reinforced by the fact that illumination is assessed with the "normal human eye"

[5] Notably, the EDTX Court provided inconsistent characterizations of whether these terms in Ultravision's construction are objective. It characterized them as "not purely subjective" suggesting that an assessment is objective, unless it is a *purely* subjective assessment. *See* Ex.6 *Holophane Markman* Order at 18. But that is an incorrect statement -- a partial subjective assessment cannot be objective.

according to Ultravision. Here, the experts agree that subjective criteria and environmental conditions would impact the visual assessment of uniformity, thereby, leaving uncertainty as to whether the claim limitations are met. For example, a billboard luminaire's illumination pattern may appear to be devoid of dead spots when viewed at dusk, but not at midnight. Likewise, the illumination pattern may appear to be devoid of dead spots when viewed in an urban environment, but not a rural environment. Given Ultravision's contention that the assessment is a visual one, the scope of a claim limitation that is satisfied under some environmental conditions, but not others, is not reasonably certain, particularly when those conditions are not claimed.

Finally, Ultravision's argument about the 3:1 ratio is non-sequitur. Acuity references this ratio once in its Response (p. 14) and does so to explain the inconsistency between the patent's discussion of the 3:1 ratio and UV's proposed construction. To reiterate, the specification describes *even* illumination in terms that would allow for hot spots. *See* '410 Patent at 2:55-58; 5:14-16. In other words, *evenness* is explained in the intrinsic record (*i.e.*, a 3:1 ratio) to *permit* hotspots. This is inconsistent with the understandings of evenness and uniformity expressed by Ultravision and its expert[6] and confirms that a skilled artisan would not jump to the conclusion that substantially uniform (i.e., less than uniform) can be assessed by the absence of hot spots. Put simply, Ultravision's proposed construction is both indefinite and contrary to the specification.

B. Term 2: "[each of the plurality of optical elements comprises] a first lens element and a second lens element disposed over the first lens element"

Term	Ultravision's Proposal	Acuity's Proposal
"[each of the plurality of optical elements comprises] a first lens element and a second lens element disposed over the first lens	Plain and ordinary meaning, where the plain and ordinary meaning is "a second lens element disposed on top of a first lens element"	"[each of the plurality of optical elements comprises] a lens with two optical surfaces placed or

[6] *See* expert testimony and Lighting Handbook cited in Response at page 14-15.

Term	Ultravision's Proposal	Acuity's Proposal
element"		arranged on another lens with two or more optical surfaces"[7]

1. Ultravision's Opening Position

Acuity's proposal would require that each "lens element" be a distinct lens, contrary to the plain language of the claim which only requires an *element* of a lens. The Court should reject Acuity's proposal because it contradicts disclosed embodiments and is unsupported by any lexicography or disclaimer. The Texas Court rejected Acuity's proposed construction when construing the term "a first lens element and a second lens element disposed over the first lens element." Ex. 6 at 9-15. This Court should reject Acuity's arguments for the same reasons.

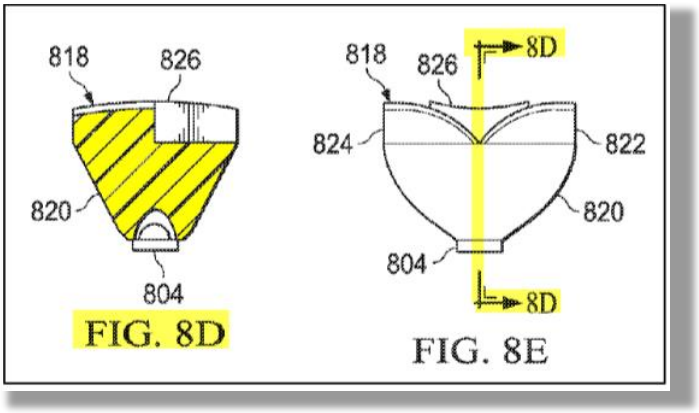
The Asserted Patents recite a "lens element" as a portion of a lens, not a distinct lens as Acuity's construction would require. Claim 1 of the '410 Patent recites, "each of the plurality of optical elements comprises a first lens element and a second lens element disposed over the first lens element." 8:42-45. The claim is clear that the optical element has two "lens elements" above one another. Defendants' construction would instead require *two* lenses, each with *two* optical surfaces, which are placed atop one another. Defendants cannot identify any support for this requirement.

The Texas Court expressly rejected Acuity's proposal, reasoning that it contradicts the specification's disclosure that a first lens element and second lens element of a lens need not be different lenses:

> This would require the "optical element" to be an assembly of these distinct lens elements. Contrary to Defendants' contention, the specification does not describe optical element 804 as an assembly of distinct structures. Instead, the specification describes the optical element as comprised of multiple lens elements, not multiple

[7] The parties agree that a lens element has two or more surfaces. As Acuity concedes in its Response (p. 23) and Ultravision argues in its Reply (26), Acuity agrees to change "two optical surfaces" to "two or more optical surfaces."

> lenses. *Id.* at 8:6–7 ("[A] single optical element 806 may include multiple lens elements") … To be sure, there is no discussion of a method of assembly or indication that the optical element must be an assembly of distinct structures. Figure 8D illustrates optical element 806 as a single piece by including hatching throughout the entire cross-section. *Id.* at 8:6–9 ("As shown in FIGS. 8D-8H, a single optical element 806 may include multiple lens elements designed to distribute the illumination provided by a single LED 804 across a surface such as the surface 102 of FIG.1.").



> '410 Patent at Fig. 8D, 8E (highlighting added). Thus, a person of ordinary skill in the art would understand that Figures 8D–8H illustrate a unitary optical element, and not an assembly of distinct elements. That said, there is nothing that prevents the optical element from being an assembly of distinct lens elements, as Defendants propose. However, the intrinsic evidence does not require it, and it would be improper to read this requirement into the claims.

Ex. 6 at 12-13. Because the intrinsic evidence shows that a lens with multiple *lens elements* need not be assembled from different *lenses*, this Court should reject Acuity's proposal for the same reasons articulated in the Texas Action.

2. Acuity's Answering Position

The Patents-in-Suit use at least five different terms to discuss specific aspects of optical structures used with the claimed lighting assemblies, *i.e.*,

1. optics panel is the overall collection of lenses for the lighting assembly and it includes one or more lens panels, *see, e.g.*, '410 Patent at Figs. 2 and 8A, and 4:43-49 (discussing optics panel 206)) and 6:58-59;

2. optical element is a collection of one or more lens elements and those lenses are components of the optics panel or lens panel, *see, e.g.*, *Id.* at Figs. 5A and 8B-8J,

and 4:64-5:1 (optical elements 514 are the lenses of the optics panel), 8:6-15 (discussing optical elements 806;

3. lens panel is a substrate with one or more optical elements, *i.e.*, lenses, *see, e.g., Id.* at Figs. 5A and 6A-6C, 4:43-49 (discussing lens panel 500), 4:64-65, and 6:55-59 (discussing lens panel 604);

4. lens element is discussed with respect to Figs 8D-8H and is described as a component of a complex optical elements depicted in Figs. 8, *see, Id.* at 8:6-14; and

5. surface of a lens is discussed with respect to Figs 5C and D and is described as inner surface 524 and exterior surface 526 of the lens structure 522, *Id.* at 5:29-48.

Ultravision's proposed "plain and ordinary meaning" construction seeks to conflate the patents' discussion of lens elements and surfaces, so that Ultravision can continue to pursue certain of its infringement contentions that equate two "lens elements" with the two surfaces (inner and exterior) of a single lens. *See e.g.*, Ex. D, *UV* Infr. Cont. App. A-8 at 4 ("optical elements disposed over each LED further comprise [sic] a bottom surface (*e.g.* a first lens element) and a top surface (*e.g.* a second lens element)"). Acuity, on the other hand, proposes a construction of "lens element" that is consistent with the specification, which distinguishes the phrase "surface" of a lens from the phrase "lens element" and teaches that a lens element is a lens with two optical surfaces. Acuity's construction is consistent with both the plain meaning and the intrinsic record.

The Patents-in-Suit use the term "lens element" only in connection with the embodiment of Figures 8D-H. In that embodiment, "lens element" refers to a lens with two or more optical surfaces, and an "optical element" refers to multiple lens elements, with one lens element disposed over another, as claimed. The specification explains, "[a]s shown in FIGS. 8D-8H, a single optical element 806 [shown in Figures 8A-C] may include multiple lens elements designed to distribute the illumination provided by a single LED 804" and "a first lens element 820 may be positioned

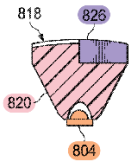


FIG. 8D

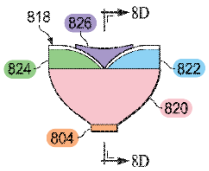


FIG. 8E

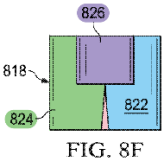


FIG. 8F

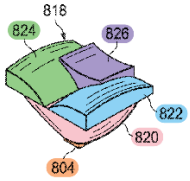


FIG. 8G

proximate to the LED 804, and additional lens elements 822, 824, and 826 may be positioned above the lens element 820." '410 Patent at 8:6-13, FIGs. 8D-8G. This multiple lens configuration is needed to achieve the desired light distribution. *Id*. A "lens element" is not merely the surface of a lens. Rather, as illustrated in the figures, each lens element is a lens with two optical surfaces.

This is further confirmed by the specification's discussion regarding Figures 5A-D that depict a "lens panel" that "may include multiple optical elements" ('410 Patent at 4:64-65) each of which is depicted in Figs. 5 as a lens that overlies an associated LED. Importantly, the patent never uses the term "lens element" to describe the optical elements of Figures 5A-D. Instead, the specification describes the optical elements as having "surfaces." '410 Patent at 5:43-48. In other words, the specification uses the term "surface" when referring to a lens surface and it uses the term lens element when referring to the complex lenses of Figs. 8. When the patentee wanted to describe multi-surface lenses (*i.e.*, "lens elements") that are combined to form an optical element, it also did so explicitly. *Id*. at 8:16-14. And when the patentee wanted to describe the surface of a lens, it did so explicitly. Ultravision's effort to conflate these two terms contradicts the patents.

Notably, in the Texas Action, Ultravision made a similar argument in an effort to broadly construe "lens element" to cover a lens surface. Ultravision's argument was rejected:

> The problem with Plaintiff's argument is that the Asserted Patents use the disputed term "lens element" only in connection with the embodiment of Figures 8A-J. These figures illustrate and identify different geometric shapes (820, 822, 824, 826), not the surfaces, as the "lens elements." *Id*. at Figs. 8D, 8E, 8F, 8G.
>
> In contrast to this description, the specification states that Figures 5A–D depict a "lens panel 500" that "may include multiple optical elements 514." *Id*. at 4:64–65. The specification does not use the term "lens element" to describe any component of these figures. Instead, the specification describes items 526 and 524 as "surfaces," not "lens elements." *Id*. at 5:43–48. Thus, the Court rejects Plaintiff's argument that a "surface" is a "lens element," because it is inconsistent with the intrinsic evidence and would read "lens element" out of the claims.

Ex. 6, *Holophane Markman* Order at 11-12. The same finding is appropriate here.

Finally, Ultravision's arguments regarding "distinct" lenses appear to be an errant holdover from the Texas Action. Here, Acuity dropped the term "distinct" from its construction, in response to the Texas' Court's construction. In the Texas Action, the court reasoned that the asserted patents contemplate a lens that may be formed as having an "assembly of distinct structures." Ex. 6, *Holophane Markman* Order at 11-12 ("[t]hese figures illustrate and identify different geometric shapes (820, 822, 824, 826), not the surfaces, as the "lens elements."). Acuity's construction is consistent with this reason, and is consistent with the intrinsic record that distinguishes between the surface of a lens and a lens element, as confirmed in the Texas Action.

The implicated asserted claims require very specific lens configurations with lens elements disposed over other lens elements, similar to that disclosed in Figs. 8. Ultravision's effort to read out these limitations and replace them with a lens with an inner and outer surface is inconsistent with the plain meaning of the term and is not supported by the intrinsic record, which consistently uses "lens element" to mean a lens structure with two optical surfaces. Acuity's construction is consistent with both the plain meaning and the intrinsic record, and thus should be adopted.

3. Ultravision's Reply Position

Ultravision is not taking the position that the inner and exterior surface of a lens are different "lens elements." The sole issues in dispute are (1) whether a "lens element" requires a distinct optical surface (it does not), and (2) to the extent a "lens element" requires any optical surface, whether it can have more than two optical surfaces (it can).

First, it remains unclear whether Acuity's construction requires that a "lens element" be an assembly of separate pieces. Acuity misleadingly states that it "dropped the term 'distinct' from its construction, in response to the Texas' Court's construction," while relying on the mischaracterization that "the [Texas Court] reasoned that the asserted patents contemplate a lens that may be formed as having an 'assembly of distinct structures.'" Response at 25 (emphasis

added). Acuity's usage of the term "optical surface" still apparently requires that lens elements be separate pieces as opposed to, for example, different portions of a single injection molded optical element. As the Texas Court reasoned, "there is no . . . indication that the optical element must be an assembly of distinct structures . . . a person of ordinary skill in the art would understand that Figures 8D-H illustrate a unitary optical element, not an assembly of distinct elements." Ex. 6 at 13. Acuity's proposal requiring that a "lens element" include an interior "surface" is unsupported and contradicts the disclosed embodiments.

Second, there is no basis for limiting a "lens element" to two optical surfaces. Acuity itself states that "[i]n [the embodiment of Figure 8], "lens element" refers to a lens with two or more optical surfaces." Response at 23 (emphasis added).

Accordingly, Acuity's proposed construction should be rejected, and "lens element" should be accorded its plain and ordinary meaning, i.e., "an element of a lens."

4. Acuity's Sur-Reply Position

The parties appear to agree as to the proper construction of this term: "a lens with two [or more] optical surfaces."

First, Ultravision concedes that it "is not taking the position that the inner and exterior surface of lens are different 'lens elements'" (Reply at 25) and the parties agree on that aspect of the construction.[8]

Second, the parties agree that "distinct" is not part of the construction and that lens elements can be combined, such as depicted in Figures 8A-J. In other words, Acuity's construction is consistent with the specification's description that "a single optical element 806 may include multiple lens elements designed to distribute the illumination provided by a single LED 804." '410

[8] Presumably Ultravision will drop its assertion of claims for which its contention is based on lens surfaces being lens elements. *See, e.g.*, Ex. D, App. A-8 at 4 and Ex. R, App. A-6 at 6.

Patent at 8:6-10. This includes optical elements comprising multiple lens elements formed through an injection molding process because each lens element (of the injection molded optical element) still interacts with the light differently, consistent with Acuity's construction.

Third, the parties agree that a lens element has two or more surfaces. As Acuity concedes in its Response (p. 23) and Ultravision argues in its Reply (p. 26), Acuity agrees to change "two optical surfaces" to "two or more optical surfaces."

C. Term 3: "convex optical element"

Term	Ultravision's Proposal	Acuity's Proposal
"convex optical element"	Plain and ordinary meaning, where the plain and ordinary meaning is "an optical element that is convex"	optical element with a "radially symmetric hemispherical outer surface"

1. Ultravision's Opening Position

Acuity's proposed construction would require that a "convex optical element" be a perfect hemisphere. Acuity's construction should be rejected because it seeks to limit the term "convex" to a single undisclosed embodiment, and because it is unsupported by any lexicography or disavowal.

The specification contains no support for limiting "convex optical element" to one with a "radially symmetric hemispherical outer surface." Acuity's proposed construction appears to be an attempt to import the embodiment shown in Figure 5A:

But the panel of Figure 5A is only one embodiment of the invention (Ex. 1, 4:43-45), and nothing in the specification indicates that the term "convex optical element" was intended to be limited to the lens elements shown in Figure 5A. There is also no support for Acuity's apparent assumption that optical elements 514 have a "radially symmetric hemispherical outer surface." Indeed, there is no disclosure anywhere in the patent specification of an optical element with a

"radially symmetric hemispherical outer surface." As such, Acuity's proposal should be rejected as an improper attempt to limit the claims

Acuity's proposal should also be rejected because it is inconsistent with the plain and ordinary meaning of "convex," and because "convex" is a straightforward term that does not need to be construed. Ex. 7 at ¶ 65. One of ordinary skill in the art would recognize that "convex" elements include bulging, as opposed to recessed (i.e. concave), surfaces. *Id.* (citing Ex. 13 (Cambridge dictionary defining convex as "curved or swelling out"); Ex. 14 (WolframAlpha defining convex as "curving or bulging outward"); Ex. 15 (Dictionary.com defining convex as "having a surface that is curved or rounded outward")). In the absence of any lexicography or disavowal, any construction of such a well-known term would needlessly add complexity to the claims. In any case, Acuity's arbitrarily narrow proposal is inconsistent with the plain and ordinary meaning of "convex."

Acuity's definition fails to account for other convex surfaces discloses in the Asserted Patents. For example, FIGS. 8D-8I depict lens elements 822 and 824, each of which clearly has a convex surface, but would not satisfy Acuity's requirement for a radially symmetric hemisphere.

Acuity's proposed construction is also inconsistent with its use of the term "convex" in its own patents. For example, Acuity refers to a pyramid shape as an example of a convex lens shape, and walls with straight cross-sections as "convex reflective walls." See US Patent 10,140,932, Ex. 22 at 20:6–9 and Fig. 5 ("convex lens like shape (e.g., pyramid shape)"). Acuity also describes linear optics in terms of convex and concave cross-sectional curves US 10,393,341, Ex. 23 at 5:39–46 Figs. 5 and 9). As such, Acuity's proposed construction should also be rejected because it fails to account for other convex surfaces disclosed in the Asserted Patents and is inconsistent with the ordinary meaning of the term "convex" as recited in Acuity's own patents.The term "convex lens

element" should be accorded its plain and ordinary meaning, and Acuity's proposed construction should be rejected.

2. Acuity's Answering Position

The parties' dispute ultimately focuses on what is the meaning of the term "convex" in the context of the patents. The word "convex" is not used in the common specifications, nor is it substantively discussed in the additional intrinsic record. Accordingly, Acuity proposes a construction that is consistent the plain and ordinary meaning in the field of physics, *i.e.*, an optical element with a radially symmetric hemispherical outer surface. While convex may have different meanings in different fields, a skilled artisan would understand that convex means a circular shape that protrudes outward with equal symmetry relative to a center axis.

This meaning is consistent with the common specification's depiction of a "convex optical element." As an initial but important point, it is undisputed between the parties that "optical element" in the Asserted Patents refers to a single lens. For example, in describing Figs. 5A-D, the common specification states that a "***lens panel 500*** may include ***multiple optical elements 514***" and that "***optical elements 514*** are configured so that light emitted from each LED 416 is projected onto the entire surface 102 of the billboard 100." '410 Patent at 4:43-49, 4:64-65, 5:4-6. In describing this aspect of the invention, the common specification states that "by designing ***the lens*** in such a manner, when all LEDs are operating, the light form [sic] the collective thereof will illuminate the surface at the 3:1 ratio." *Id.* 5:16-20. *See also,* Op. Br. at 21 ("The claim is clear that the optical element has 'two lens elements'"; Ultravision's proposed construction of "lens element" as "an element of a lens"). Fig. 5A most clearly shows that each optical element 514 is one lens in its entirety. *Id.* at Figs. 5A and 5D; 5:4-48 (Figs. 5A-5D depict one embodiment where an individual optical

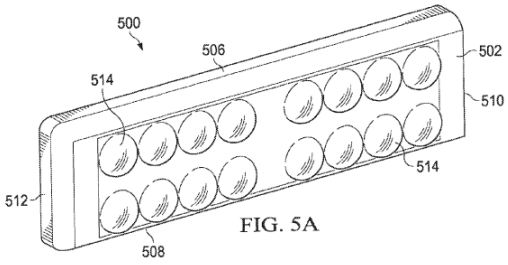


FIG. 5A

element 514 of Fig. 5A is shown at the lens structure 522 in Fig. 5D having an interior surface 524 and an exterior surface 526). Furthermore, the lenses of Fig. 5A appear to be portions of a sphere with radial symmetry, *i.e.*, convex. To be clear, Acuity is not arguing that this embodiment be imported into the claim as Ultravision argues; instead, Acuity is explaining the consistency between the specification and the plain and ordinary meaning of convex, as used in optical physics.

Of equal importance, Ultravision's expert, Dr. Coleman, seems to partially agree with Acuity. Although Ultravision fails to disclose in its Opening Brief what is the plain and ordinary meaning of convex or how Acuity's construction is inconsistent with that meaning, Dr. Coleman's Declaration states that a skilled artisan "would understand a convex shape to bulge outwards, as opposed a recessed (*i.e.*, concave) shape, without the need for further clarification." (Ex. 7, Coleman Decl. at ¶ 65). Dr. Coleman's concept of an outward bulging lens is consistent with Acuity's construction. In fact, certain of the extrinsic definitions provided by Dr. Coleman directly support Acuity's construction. *See, e.g.*, Ex. 15, Dictionary.com at p. 2 ("Scientific Definitions for Convex . . . Curving outward, like the outer boundary of a circle or sphere.").

In view of the foregoing agreement, Ultravision's reliance on Figures 8D-8I to support a different construction is puzzling. Ultravision appears to argue that these figures depict convex surfaces, but that they would fall outside of Acuity's construction. But these figures also would fall outside the plain and ordinary meaning, as explained by Ultravision's expert, *i.e.*, a lens that bulges outwards, as opposed to a recessed lens. Importantly and as discussed above, Figures 8D-H each depict an "optical element" (*i.e.,* a lens) with multiple lens elements. To be clear, the applicant chose the phrase "convex optical element," not convex lens element or convex surface of a lens and, therefore, the claims require the optical element to be convex, not merely that a lens

element be convex.[9] Thus, a skilled artisan would not assess the lens elements of these figures individually; the skilled artisan would assess whether the entirety of the optical element bulges outward (as Dr. Coleman contends) or has a radially symmetric hemispherical outer surface, as Acuity contends. The figures depict neither, as most clearly illustrated in Figures 8E, 8G and 8H. Each of these figures depicts a complex optical element with outer surfaces that include concave shapes. Even using Dr. Coleman's understanding of the plain and ordinary meaning of convex optical element, these optical elements do not qualify because optical elements with concave portions in their outer surface are not convex optical elements.

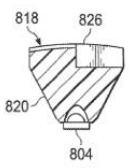


FIG. 8D

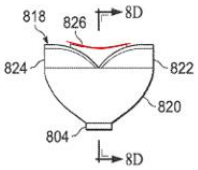


FIG. 8E

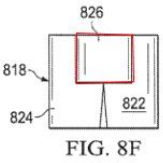


FIG. 8F

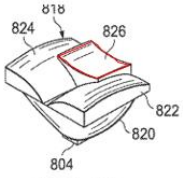


FIG. 8G

Acuity's construction for "convex optical element" is consistent with the plain and ordinary meaning for this term as used in the field of optical physics, and it is consistent with the common specification's description for optical element. Each of Ultravision's arguments related to Acuity's use of the word "convex" ignores that the claim term at issue is "convex optical element," which relates to the entirety of the outer surface of a lens, not merely a portion of it.

3. Ultravision's Reply Position

Acuity improperly seeks to limit the term "convex optical element" to the hemispherical embodiments supposedly depicted in FIG. 5. Ex. 24 at 106:3-107:6. While Acuity disputes that it seeks to limit the claims to those embodiments, it relies on its expert's definition which purports to "describe[] them in my own words." *Id.* Acuity's proposal should therefore be rejected as improperly limiting claims to a narrower embodiment. *See Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

[9] Notably, Claim 30 of the '946 Patent refers to an "optical element [that] comprises a convex portion" unlike the terms at issue which require the entire "optical element" be convex.

Acuity's construction should also be rejected because it looks to the field of "classical physics" for an overly restrictive definition of the term "convex," rather than the field of lighting in which "convex" refers to a bulging (as opposed to recessed) surface. *Compare* Ex. 24 67:19-23 *and* Response at 29-31 *with* Ex. 7 ¶ 65. Acuity also fails to address its own use of the term "convex" in patents to refer to pyramid shapes and ridges, both of which are consistent with the ordinary meaning of "convex" in the field of lighting. *See* Brief at 14.

Acuity's construction is also improper because it improperly characterizes the lenses in Figure 5 as hemispherical, *i.e.*, half of a sphere, when the specification does not indicate that the drawing is to scale or may be relied on for precise measurements. *Hockerson-Halberstadt, Inc. v. Avia Grp. Int'l*, 222 F.3d 951, 956 (Fed. Cir. 2000) ("[I]t is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.") A hemisphere is defined as "a half of a sphere" and a sphere is "a round body whose surface is at all points equidistant from the center." Exs. 25-26. As Acuity's expert acknowledged, the lenses in Figure 5 are not characterized as hemispherical and their dimensions are not disclosed in the specification. *See* Ex. 24 at 107:23-108:17 ("Q:[Y]ou assumed these figures were drawn to scale, correct? . . . A: I didn't necessarily assume that because it looks like the LED is not the right dimension for the lens . . ."). As such, Figure 5 lends no support to Acuity's proposed construction.

Finally, Acuity's proposal improperly contradicts the claims and disclosed embodiments of the Asserted Patents. For example, Acuity's proposal would conflict with the language of claim 21, which requires a convex optical element with three portions and corresponding directions where, like elements 822, 824, and 826 of the embodiment of FIG. 8, "the first primary direction is a lateral direction, the second primary direction is also a lateral direction, and the third primary

direction is approximately orthogonal to the first and second lateral directions." *See also* '946 Patent, Claim 22. Moreover, it is unclear how Acuity's proposal permits ***any*** convex optical element with multiple lens elements.

4. Acuity's Sur-Reply Position

Two disputes remain: (1) what is convex and (2) what does convex mean?

First, the intrinsic record indisputably teaches that an optical element is a complete lens. *See, e.g.*, 4:64-5:1 (optical elements 514 are the lenses of the optics panel). Thus, the outer surface of the lens is convex; not merely another surface of a lens element. Ultravision's Reply does not directly address the specification's distinction between an optical element and a lens element , but it does make reference to the Figure 8 embodiments, which Ultravision contends are captured by claim 21 of the '946 Patent. To the extent Ultravision is arguing that claim 21 is limited to the embodiment of Figures 8, there is no legal basis for that argument and that argument would read out other disclosed embodiments. For example, Figure 5D depicts a convex optical element 526 with three facets on the inner surface. Accordingly, Acuity's construction is consistent with both the teaching of the specification and the claim limitation that requires an "optical element" to be convex; not merely a portion of the optical element's surface.[10]

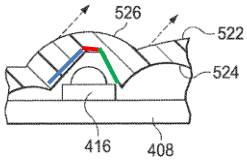


FIG. 5D

Second, Ultravision takes conflicting positions with respect to what convex means; *i.e.*, it argues that (i) no construction is necessary and "convex" should be repeated in the construction (Opening Br. at 27-29), (ii) convex means different things in different fields (Reply at 32), and (iii) convex means "bulging, as opposed to recessed (*i.e.* concave), surfaces" (Opening Br. at 28). These inconsistencies, as well as the various inconsistent definitions in the dictionaries cited by

[10] Ultravision also refers to claim 22 of the '946 Patent but that claim is not asserted.

Ultravision (Ex. 13, 14 and 15), are the very reason that a plain and ordinary meaning construction will not suffice.

Instead, the term should be given its meaning in the field of physics, and particularly optical physics. In that field, convex means a lens with at least a "radially symmetric hemispherical outer surface." That construction is consistent with Ultravision's argument (Opening Br. at 28) that the lens has an outer surface that (i) bulges outward and (ii) has no recesses. The construction is also consistent with Figs. 5A-D and their accompanying description in the specification. And while Ultravision focuses on Figures 8 (Reply at 32-33), it cannot explain away the fact that those figures do not depict an outer surface that bulges outward with no recesses and are not convex under either parties' arguments.

Ultravision's attempt to distract the Court by referring to Acuity's patents is equally unavailing. U.S. Patent No. 10,140,932 does not refer to a convex optical element, but instead refers to a *housing* as having a "convex lens like shape (e.g., pyramid shape)." Op. Br. at 28; Rep. Br. at 32. Furthermore, the '932 Patent is consistent with Acuity's construction. It describes a "curved optical element 205" that can be "a transparent convex shaped surface", which is depicted as an optical element similar to Fig. 5 and aligns with Acuity's construction. *See.* Ex. 22, '932 Patent at 19:64-67, Fig. 4.

Acuity's construction is correct because a POSITA would understand "convex" to mean having at least a "radially symmetric hemispherical outer surface."[11]

[11] Notably, the USPTO Patent Trial and Appeal Board agreed with Acuity's expert that Fig. 5 depicts convex surfaces. *See* Ex. S, '946 IPR Institution Decision at 6 ("The written description of the '946 patent does not appear to describe expressly, "convex optical elements" as recited in claim 1, although it appears that optical elements 514 depicted in Figure 5A have convex surfaces. *See* Ex. 1001, Fig. 5A; *see also* Pet. 90."). Acuity's construction is consistent with a skilled artisan's understanding informed by what the specification depicts as "convex."

D. Term 4: "display surface"

Term	Ultravision's Proposal	Acuity's Proposal
"display surface"	Plain and ordinary meaning, where the plain and ordinary meaning is "surface to be displayed using illumination"	"sign surface"

1. Ultravision's Opening Position

The plain language of the claims themselves compels a plain meaning construction of "display surface," which includes any surface to be displayed using illumination, and Acuity's proposed construction limiting this term to lighting for use with signs should be rejected.

The claims require the direction of light onto a "display surface," which in certain instances can be part of a billboard. Compare '410 Patent, claim 1 ("configured to direct light from each of the plurality of LEDs of the lighting assembly onto a display surface external to the optics panel") with claim 10 ("the light from each lens is directed across the entire display surface of the billboard"). When the patentee wanted to claim a billboard-only application, it chose to do so. The plain meaning of the term "display surface" is a surface that is to be displayed, and to narrow the claims beyond that is error. Even if the specification only discloses a single embodiment, that is not a basis for reading features and functions of that embodiment into the claims. *Continental Circuits LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019) (expressly rejecting that the claims of the patent must be construed as being limited to a preferred embodiment).

While the Texas Court construed this term to mean "sign surface," that construction was in error. The Federal Circuit has cautioned that, "even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.'" *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir.

2004); *see also Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1371 (Fed. Cir. 2003) (holding that it was improper to read an order of steps embodiment into method claims because the specification "nowhere [included] any disclaimer of any other order of steps, or any prosecution history indicating a surrender of any other order of steps.") Here, as in Cont'l Circuits, Liebel-Flarsheim, and Altiris, there are no "words or expressions of manifest exclusion or restriction" that limit that the claimed invention to use with a billboard or sign. To the contrary, one of skill in the art would recognize that the inventor was in possession of an LED light fixture capable of uniformly illuminating any surface. Ex. 7 at ¶ 60. There is no teaching that the light fixture could only work with signage as opposed to other display surfaces (e.g. a wall, floor, or street), nor is there any teaching that illumination of other display surfaces is different than lighting a sign. As such, because the plain meaning of the term "display surface" is broader than the term "sign," and because there are no "words or expressions of manifest exclusion or restriction" that limit a "display surface" to a sign, Acuity's proposed construction should be rejected.

The term "display surface" should therefore be accorded its plain and ordinary meaning, i.e. surface to be displayed using illumination.

2. Acuity's Answering Position

The parties' dispute is whether the claimed "display surface" to be illuminated is (i) a sign surface, such as that of the billboards and exterior illuminated signs that are described as the scope of the invention, or (ii) any surface, such as the surfaces of streets, sidewalks, parking lots or grassy fields that are illuminated by the accused products. The Asserted Patents are unquestionably limited to LED lighting for signs, as even Ultravision argued in the *Lamar* case. In fact, the common specifications for the Asserted Patents expressly describe the scope of the invention as, "[a]lthough billboards are used herein for purposes of example, it is understood that the present disclosure may be applied to lighting for any type of sign that is externally illuminated." '410

Patent at 2:6-9, 6:47-52 ("It is understood that various standard configurations of the lighting assembly 110 may be developed for various billboard and/or other externally illuminated signs . . ."). In view of the intrinsic record, it is not surprising that the Texas Court already construed display surface to mean sign surface, finding that the specification only and repeatedly refers to illuminating the surface of a sign (*e.g.*, billboard) and "[w]here, as here, a patent repeatedly and consistently characterizes a claim term in a particular way, it is proper to construe the claim term in accordance with that characterization." *Wis. Alumni Research Found. v. Apple Inc.*, 905 F.3d 1341, 1351 (Fed. Cir. 2018), *cert. denied,* 140 S. Ct. 44 (2019) (citation / quotation marks omitted).

While the term "display surface" is not used in the common specifications, the specification repeatedly and consistently identifies the "surface" to be illuminated as the surface of a billboard. *See e.g.,* '410 Patent at 2:11-12 ("billboard 100 includes a surface 102 onto which a picture and/or text may be painted, mounted, or otherwise affixed"); 2:25-26 ("billboard 100 to illuminate some or all of the surface 102); 2:35 ("surface 102 of the billboard 100); 3:17-18 ("surface 102 of the billboard 100); 4:20 ("surface 102 of the billboard 100); 5:6 ("surface 102 of the billboard 100); etc. Notably, the patents never refer to illuminating a "surface" as anything other than illuminating a sign (*e.g.*, billboard) surface. Even in the two instances in which the patent suggests uses other than for billboards, the patent still makes clear that the invention is intended for externally illuminated signage (which includes billboards):

> Although billboards are used herein for purposes of example, it is understood that the present disclosure may be applied to lighting for any type of sign that is externally illuminated.

'410 Patent at 2:6-9.

> It is understood that various standard configurations of the lighting assembly 110 may be developed for various billboard and/or other externally illuminated signs so that a particular configuration may be provided based on the parameters associated with a particular billboard and/or externally illuminated sign.

'410 Patent at 6:47-52.

In fact, in the *Lamar* litigation (which involved some of the Patents-in-Suit, as well as other patents that share a common specification with the Patents-in-Suit), Ultravision agreed with Acuity's position here:

> The Patents-in-Suit relate to LED lighting assemblies for ***billboards***. . . . Generally speaking, the asserted claims speak to the illumination of ***billboards*** with LED lighting assemblies. The asserted claims relate to the LED lighting assemblies used to light the ***billboards*** as well as the optical elements (*i.e.*, lenses) used in the LED lighting assemblies to create uniform illumination of the billboard surface. Additional asserted claims relate to the ***billboards*** including the LED lighting assemblies, and other claims relate to the methods used to illuminate the ***billboards*** using the LED lighting assemblies. The patented technology provides a number of benefits-both in the quality and economics of ***billboard*** lighting.

See Ex. B, *Lamar* Op. Br. at 1. Yet, Ultravision now argues to the contrary.

Ultravision's primary argument is that "when the patentee wanted to claim a billboard-only application, it chose to do so." Op. Br. at 35. First, this argument is a *non-sequitur*. Acuity's proposed construction is not billboard surface; it is sign surface, which is broader than billboard surface, and is commensurate with the scope of the invention described in the specification. Acuity is not proposing to limit display surface to a billboard surface; it proposes the broader phrase sign surface because that is what would be understood by a skilled artisan, who reviews the intrinsic record and considers that it only teaches illuminating a sign surface. *See Microsoft Corporation v. Multi–Tech Systems, Inc.*, 357 F.3d 1340, 1348–49 (Fed.Cir. 2004) (holding statements in the Summary of the Invention and the prosecution history that describe the overall inventions of the patents may limit the scope of claims even though the language of the claims, read in isolation, might support a broader construction); *SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1196 (Fed. Cir. 2013) (citing *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (citing *Watts v. XL Sys.*, 232 F.3d 877, 882 (Fed.Cir. 2000))) ("Disclaiming the ordinary meaning of a claim term—and thus, in effect, redefining it—can be affected through "repeated and

definitive remarks in the written description."); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1344 (Fed. Cir. 2001)("[T]he written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format."); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1268 (Fed.Cir. 2001) ("[A] claim term may be clearly redefined without an explicit statement of redefinition. . . In other words, the specification may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents." (internal quotation marks omitted)).

Second, Ultravision's position here not only disregards the applicants' statement of the invention, Ultravision took the opposite position in the *Lamar* case in which it argued that claim 16 of the '413 Patent, which refers to a "display surface," is limited to billboards even though it does not refer to a billboard. Ex. B, *Lamar* Op. Br. at 1; *see also* Ex. 10, *Lamar* Markman Tr. at 44-45 (Ultravision counsel arguing that Lamar's arguments relating to indefiniteness of claim 16 of the '413 patent based on "parking lot lights" were irrelevant because the patents address challenges of "billboard lighting" not found in parking lot lighting).

Next, Ultravision's argument (Op. Br. at 35-36 (citing *Continental Circuits LLC v. Intel Corp.*)) that if the specification only discloses a single embodiment, the features and functions of that embodiment should not be read into the claims is misplaced. *Continental Circuits LLC v. Intel Corp.*, 915 F.3d 788 (Fed. Cir. 2019). Unlike in *Continental Circuits*, where the specification used exemplary language and was clear to avoid explaining the scope of the invention according to a particular embodiment (*id*. at 797), the Patents-in-Suit unmistakably describe each embodiment in terms of billboards and signs. And as noted above, even the applicant's caveat about scope limits the scope of the invention to illuminating externally illuminated signs. '410 Patent at 2:6-9.

3. Ultravision's Reply Position

Acuity fails to identify any lexicography or disavowal limiting the term "display surface" to a sign. Acuity instead relies on Ultravision's general discussion of benefits of the patented inventions in the *Lamar* Action for the misstatement that Ultravision "argued the patented technology was unquestionably limited to billboards." Response at 38. The plain language of Acuity's block quote belies its mischaracterization. *Id.* In any case, Ultravision's summary does not supplant the intrinsic record.

Acuity fails to distinguish *Liebel-Flarsheim*'s holding that it is improper to limit claim scope to disclosed embodiments absent "words or expressions of manifest exclusion or restriction." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004). Acuity also fails to distinguish *Continental Circuits*, relying on the mischaracterization that the Federal Circuit relied on use of "exemplary language" in the patent specification. Rather, the Federal Circuit noted that the statements described how to make the claimed invention using the preferred embodiment, "and are not statements clearly limiting the claimed 'electrical device' to require [the preferred embodiment]." *Cont'l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019).

Accordingly, the term "display surface" should be given its ordinary meaning, *i.e.*, "surface to be displayed using illumination.

4. Acuity's Sur-Reply Position

The intrinsic record and Ultravision's arguments in the *Lamar* case are consistent with Acuity's proposed construction: a display surface is a "sign surface", such as the surface of a billboard. Acuity's Response demonstrates that the Asserted Patents are unquestionably limited to LED lighting for signs. *See e.g.*, Response at 36-37. The Patents-in-Suit state this at '410 Patent at 2:6-9.

This is true under the reasoning in the Federal Circuit's opinions in *Wis. Alumni Research Found.* and *Liebel-Flarsheim Co.* As the Texas Court agreed, when the intrinsic record "'repeatedly and consistently characterizes a claim term in a particular way, it is proper to construe the claim term in accordance with that characterization.'" Ex. 6 at 47, citing *Wis. Alumni Research Found.* 905 F.3d at 1351. That is the case with respect to display surface, "[t]o be sure, the specification never refers to illuminating a "surface" as anything other than illuminating a sign (e.g., billboard) surface." Ex. 6 at 47.

Likewise, the Federal Circuit's opinion in *Liebel-Flarsheim Co. v. Medrad, Inc.* is not inconsistent. In *Liebel-Flarsheim*, the Federal Circuit reiterated that "'an inherent tension exists as to whether a statement is a clear lexicographic definition or a description of a preferred embodiment. The problem is to interpret claims 'in view of the specification' without unnecessarily importing limitations from the specification into the claims.'" 358 F.3d at 905-06. The Federal Circuit then conducted a fact specific analysis based on the intrinsic record before it. And while it found that the intrinsic record in that case did not support the narrowing construction, it distinguished the facts of that case from other cases where ordinary claim terms were construed narrowly when the specification makes clear to a skilled artisan that a term should be limited by the specification.[12] Here, the Patents-in-Suit not only describe a single embodiment (billboard illumination), they characterize the invention as encompassing illumination for externally illuminated signs, which includes the billboard embodiment and other undisclosed signage

[12] *See, e.g., Liebel-Flarsheim* at 907, citing *Wang Laboratories, Inc. v. America Online, Inc.*, 197 F.3d 1377 at 1382 (Fed. Cir. 1999) (holding the term "frame" to only refer to "character-based systems" because the specification "would not be ... understood by a person skilled in the field of the invention" to refer to additional systems outside of the disclosed scope of the invention); *Id.* at 907, citing *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1301–02 (Fed. Cir. 1999) (construing claim consistent with specification).

embodiments. This description is consistent with the problems identified in the patents and the purported solutions to those problems, which are specific to signage illumination. *See e.g.,* '410 Patent at 2:49-64 (solving uniformity and light trespass on "surface 102" of "billboard 100"). Under the fact specific analysis of the intrinsic record, a skilled artisan would understand that the scope of the applicants' claimed invention was signage illumination and the claimed display surface is a sign surface.

E. Term 5: Area Limitations

Term	Ultravision's Proposal	Acuity's Proposal
Area Limitations: "area" / "substantially rectangular area	Area/region terms: No construction necessary. To the extent that the Court determines a construction is necessary, the plain and ordinary meaning	"sign" / "rectangular sign"

1. Ultravision's Opening Position

This proposal represents Acuity's attempt to limit all claims of these patents to signage lighting applications, despite the Texas Court already rejecting Acuity's proposed construction, holding that "the Area Terms are unambiguous, easily understandable by a jury, and should be given their plain and ordinary meaning." Ex. 6 at 50. This Court should reject Acuity's proposal for the same reasons, and those set forth below.

First, a person of ordinary skill in the art would not recognize the term "area" as limited to a "sign." Ex. 7, ¶¶ 55-60. One of ordinary skill in the art would understand "area" could refer to any surface to be illuminated including, for example, a roadway. *Id.* at ¶¶ 55-58. One of ordinary skill in the art would further understand that the claim recites "area" consistent with its ordinary meaning. *Id.* at ¶¶ 59-60. There is no lexicography, disclaimer, or other "words or expressions of manifest exclusion or restriction" that warrant the limitation of this term which is otherwise clear to both a person of ordinary skill in the art and a lay juror. *Liebel-Flarsheim,* 358

F.3d 898, 906 ("even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.'") Moreover, as with the term "display surface," one of ordinary skill in the art would recognize that the invention is not limited to signs or billboards. Ex. 7 at ¶ 60. One of ordinary skill in the art would recognize that the inventor was in possession of an LED light fixture capable of evenly illuminating a surface. *Id.* The invention (even the preferred embodiment) does not rely on any feature peculiar to signs to achieve even illumination, nor is there even any feature of signs that makes such illumination easier. *Id.* Moreover, the application of the disclosed embodiments to illuminate other surfaces is readily apparent to one of ordinary skill in the art. Given the clear ability to use disclosed embodiments to illuminate surfaces other than signs, and the absence of any technical limitation or disavowal of such applications, the Federal Circuit's holding that claims may not be limited to a disclosed embodiment carries particular weight in this case. *See Liebel-Flarsheim*, 358 F.3d 898, 906; *see also Cont'l Circuits*, 915 F.3d 788, 797.

Second, the difference between the terms "area," "display surface." and "billboard" would inform one of ordinary skill in the art that the claimed "area" is not limited to a "sign." Ex. 7 at ¶ 61. In contrast with those more limiting claim terms, a POSITA would recognize that the term "area" is broader. *See, e.g., Phillips*, 415 F.3d at 1314 (explaining that use of "steel baffles" and "baffles" implied that "baffles" did not inherently refer to objects made of steel); *see also* Ex. 7 at ¶ 60. The Texas Court agreed, holding that "[i]n light of the intrinsic evidence, the term "area" and "region" are broader than the previous term display service." Ex. 6 at 50. The patentee's decision to draft these claims more broadly is entitled to deference, and Acuity's proposed construction should be rejected.

Third, Acuity itself has recognized that the term "area" is not limited to signs in its invalidity arguments. In a petition for *inter partes* review filed against the asserted '946 patent, Acuity asserts that discussion of "illumination region Z" on a wall discloses an illuminated "area." Ex. 16 at 30-32. Acuity similarly asserts that numerous references disclose illuminating an "area" by discussing illumination of a street or sidewalk. *See e.g.* Ex. 17 [E-01] at 9 (asserting that a streetlight discloses an assembly "configured to direct light from the LEDs towards an area"); Ex. 18 [Ex. D-04] at 5 (asserting that "to illuminate a substantially rectangular area" is disclosed in reference stating to "street lighting, parking-structure lighting, pathway lighting. . ."). Moreover, Acuity's IPR expert has opined that a POSITA would look to the fields of "street lighting and parking-structure lighting" for purposes of obviousness combinations, and opined that his experience is relevant to the Asserted Patents because of its similarity to "street lighting." Ex. 19 at ¶¶ 22, 138. In parallel, Acuity's invalidity contentions argue that a POSITA would look to "area lighting" as the relevant field for purposes of obviousness combinations. Ex. 20 at 27. Acuity cannot credibly take the position that a POSITA would recognize street lighting or area lighting as a field of the invention but would not recognize that the term "area" can refer to anything other than a sign. Acuity's narrowing construction should be rejected as inconsistent with its own positions.

The area terms should be given their plain and ordinary meaning, and Acuity's proposal should be rejected.

2. Acuity's Answering Position

The parties' dispute with respect to these terms is similar to their dispute with respect to the display surface term, *i.e.*, is the area that of a sign OR any area that can be illuminated, such as the surface of a road, yard, or sidewalk? For the reasons explained in the previous section (*supra*

III.D), this question is answered by the intrinsic record, which discloses lighting that addresses problems specific to signage lighting.

The specification discusses the alleged invention in the context of billboards and confirms that its scope extends to other externally illuminated signs, not any area. *See*, *e.g.*, '410 Patent at *passim* (directly or indirectly referring to billboard lighting in every figure; referring to billboard lighting throughout the specification). Nowhere do the patents suggest that the alleged invention is applicable to any "area" besides a sign or billboard. In fact, the only references to illuminated areas in the patent are to the "surface 102" of a billboard. *See* '410 Patent at 2:11-15, 2:19-22; 2:23-27, 2:33-37, 3:15-18, 4:20-21, 5:4-14, 5:60, 7:67-8:8, etc. For example, the specification refers to a "rectangular target area" and the "rectangular target area of the surface 102," which is the "surface 102 of the billboard 100." '410 Patent at 5:4-14 (emphasis added). Similarly, the excerpt at 7:27-8:30 (describing Figures 7A-B, 8A-8J, and 9) explains that those figures are more detailed features of Figures 2 and 6A-C, all of which are more detailed figures of the lighting assembly used to light the billboard of Figure 1. *Id*. at 1:35-62.

Ultravision's argument in its Opening Brief is notably devoid of a single reference to the intrinsic record. Instead, Ultravision relies almost exclusively on its expert's declaration.[13] As this

[13] Ultravision's reliance on Acuity's IPR Petition and two claim charts are red herrings. First, in the IPR Petition, Acuity explicitly states it agrees with the Texas Court's preliminary construction of area to mean sign, but that it presents broader arguments if the Board determines that area is broader than sign. Ex. 16, *Acuity* IPR at 5. Furthermore, Acuity routinely represented to the Board that the grounds were presented out of an abundance of caution. (*Id*. at 68 ("While area lights such as the accused DSeries and Autobahn lights are not configured to illuminate signs, if Patent Owner advocates for and/or the Board determines that "area" should be construed more broadly than "sign," Maxik (alone or in view of Ruud) meets this limitation."); 32 ("To the extent that "area" is construed as a "sign", Shimada discloses illuminating a sign affixed to a wall. Ex-1004, Figs. 5, 6. A POSA understood that illuminating the framed and bounded area on a wall, as depicted in Figs. 5 and 6, is consistent and/or the same as illuminating a sign or billboard affixed to a stationary structure.").

Court is aware, extrinsic evidence is less significant than the intrinsic record in determining the operative meaning of claim language. *Phillips v. AWH Corp*, 415 F.3d 1303, 1317 (Fed. Cir. 2005). But it is noteworthy that Dr. Coleman's deposition testimony regarding the phrase "substantially rectangular area" supports Acuity's construction, which focuses on how a skilled artisan would understand that term, as used in the intrinsic record. At his deposition, Dr. Coleman was presented with five shapes and asked to identify which was substantially rectangular. Ex. A, Coleman Depo. at 123:19 - 124:22. In response, Dr. Coleman said he could not select a shape that was nearly substantially rectangular; instead, he explained that answering that question requires a consideration of the intrinsic evidence:

> I'm offering my opinions with respect to these patents and these claim constructions. And with respect to the claims, the -- the term "substantially rectangular" was referenced in a claim, for example, the one we discussed earlier, where there was the uniformity limitation imposed upon it. So that would -- the claim limitation would need to be evaluated in that context.

Id. at 120:9-15; Ex. Q, Coleman Depo, Ex. 8. Just as Dr. Coleman confirmed that what is substantially rectangular requires an analysis of the intrinsic record, a skilled artisan also would look to the intrinsic record to understand the meaning of substantially rectangular area. Acuity's construction accounts for and reflects the specification; Ultravision's does not.

Finally, Ultravision's reliance on the Texas court's construction and reasoning is misplaced. It should be noted that the Texas court initially construed the area terms consistent with Acuity's proposed construction in a preliminary construction order. Ex. E, Prelim. Constr. at

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Second, in Ex. 17 (the Ratio light claim chart), Acuity explicitly states that it is mapping the prior art reference to the claims "using the same claim constructions and application of claim limitations, as used by Ultravision with respect to the identification of the claim limitation." Finally, in Ex. 18 (the Marcoux claim chart), Acuity cites to the prior art's statements at page 4 and elsewhere that the prior art system "is used for a novel (indoor or outdoor) billboard illumination apparatus." All of these instances reflect that Acuity's arguments are made based on an assumption that Ultravision's construction of area is adopted; not that Ultravision's construction of area is correct.

3. And although the Texas court later changed its construction to plain and ordinary meaning that construction was inconsistent with its constructions of "predetermined bounded area" to mean the "area determined by the dimensions of the display surface" and "display surface" to mean "sign surface" (Ex. 6, *Holophane Markman* Order at 48 and 53). Moreover, in rejecting Ultravision's construction that "predetermined bounded area" be given its plain and ordinary meaning, the Texas court's construction treated area as that of a sign area ("'predetermined bounded area' means 'area determined by the dimensions of the display [sign] surface.'")[14] and that illustrates why its preliminary construction of the area terms was the correct construction.

Ultravision would have this Court err by considering the area terms in a vacuum and without the context of the intrinsic record. But, as this Court is aware, even if a term is to be given its plain and ordinary meaning, that plain and ordinary meaning is what would be understood by a skilled artisan in the context of the specification and prosecution history. *Trustees of Columbia Univ. in City of N.Y.*, 811 F.3d at 1363-66 (finding that claim terms are read in view of the specification and their use in the specification can limit the terms, even in the absence of an express disavowal or lexicography); *see also*, *Phillips* 415 F.3d 1303 at 1313 (claim terms are to be construed in the context provided by the specification). The "construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Trustees of Columbia Univ.*, 811 F.3d at 1363 citing *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). Accordingly, a skilled artisan would have turned to the common specification to understand that term, and a skilled artisan would understand that the claimed area in the context of the Patents-in-Suit is a sign to be

[14] For "predetermined bounded area" construction, *see* Ex. 6, *Holophane Markman* Order at 53 and for construction of "display surface" used by the Texas court in its construction, *see id*. at 48

illuminated. Acuity's construction is consistent with the plain meaning and the intrinsic record, and Ultravision has not identified any evidence to the contrary.

3. Ultravision's Reply Position

Acuity's proposal that the term "substantially rectangular / area" be construed as a "rectangular / sign" fails for the same reasons as its "display surface" construction, and further fails because it fails to account for the difference between the terms "display surface" and "area." *See, e.g., Phillips*, 415 F.3d at 1314 (explaining that use of "steel baffles" and "baffles" implied that "baffles" did not inherently refer to objects made of steel). The term "substantially rectangular area" is readily understandable to a lay juror, and Acuity fails to identify any lexicography or disavowal justifying a construction. Neither can Acuity justify giving the term "area" the same construction as the term "display," when "area" is undisputedly broader. Acuity's proposed construction should be rejected.

4. Acuity's Sur-Reply Position

The Court should construe "area" and "substantially rectangular area" to mean "sign" and "rectangular sign" for the same reasons discussed above with respect to the "display surface" term. The term "area" in the Asserted Patents in inextricably linked to the display surface of a billboard. *See* '410 Patent at 2:11-15, 2:19-22; 2:23-27, 2:33-37, 3:15-18, 4:20-21, 5:4-14, 5:60, 7:67-8:8, etc. As demonstrated above and in the Response (pp. 36-38), the intrinsic record is explicit regarding the scope of the invention and courts have routinely held that broad terms may be narrowed when the specification limits the application to a specific structure. *See e.g, SciMed Life Systems* at 1341.

F. Term 6: "configured to" / "configured so"

Term	Ultravision's Proposal	Acuity's Proposal
"configured to" /	"capable of"	"designed to" /

Term	Ultravision's Proposal	Acuity's Proposal
"configured so"		"designed so"

1. Ultravision's Opening Position

The terms "configured to / so" are recited throughout the asserted claims in the context of a "substrate," "plurality of lenses," or "plurality of optical elements" of an optic panel "configured to" illuminate an area / display surface / billboard ('410 Patent, claims 1, 10, 15; '413 Patent, claims 1, 5, 11; '738 Patent, claims 10 and 11; '248 Patent, claims 1, 3, 10; '946 Patent, claims 21); or a "lighting unit" or "lighting assembly" "configured to" direct light toward or across an area / display surface / billboard ('738 Patent, claims 1, 10, 11, 12, 14; '248 Patent, claims 1, 10, 11; '946 Patent, claims 1, 12, 21, 24, 29). Acuity's proposed construction that simply substitutes "designed" for "configured" should be rejected because the claims at issue already recite the term "designed for" when the patentee intended to claim a structure "designed for" a purpose. The "configured" terms should instead be construed as "capable of" in order to give meaning to the patentee's decision to use "capable" rather than "designed" in certain contexts.

Ultravision's proposed construction is proper as to each category of the "configured [to] / [so]" term because, in the context of the claims, the term is most naturally understood to include any device capable of satisfying the claimed functionality. See Aspex Eyewear, Inc. v. Marchon Eyewear, Inc., 672 F.3d 1335, 1349 (Fed. Cir. 2012) (noting that the terms "configured to," "capable of," and "designed to" are frequently interchangeable in common parlance and looking to the context of the claims to determine how the terms are "most naturally understood"). Here, Claim 1 of the '946 Patent recites a:

thermally conductive support structure configured for outdoor use, wherein the support structure protects electronic components attached to the support structure from direct contact with

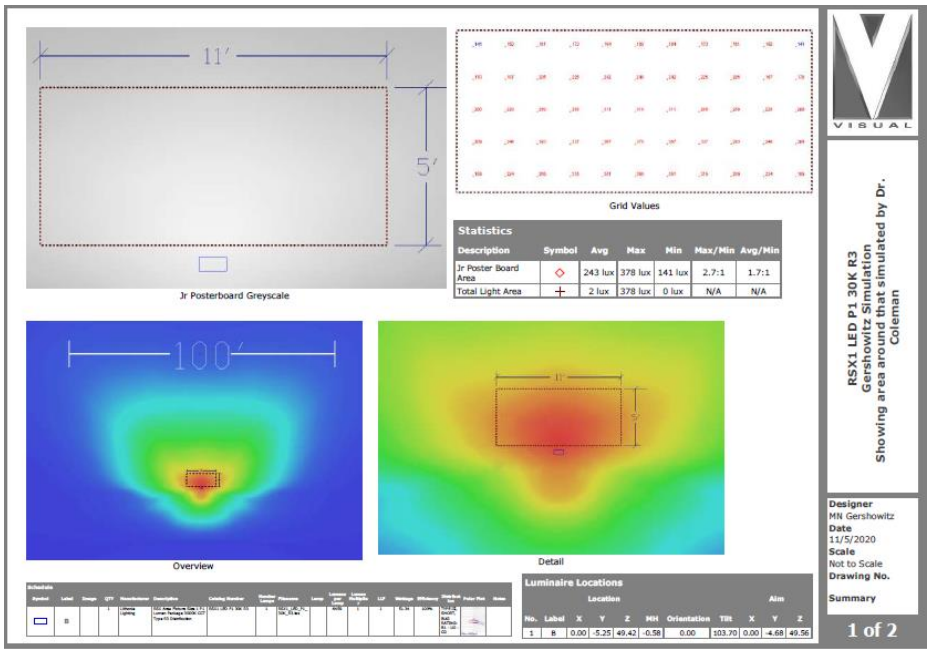
rainwater, wherein the support structure comprises an attachment point for securing the support structure to a weatherproof mount designed for outdoor use. (emphasis added).

The distinction between a support structure "configured" for outdoor use, which merely needs to protect electronic components from rainwater, and a weatherproof mount which is expressly "designed" for use outdoors, shows that the patentee used the term "designed" more narrowly than "configured." To artificially define "configured to" as "designed to" violates basic claim construction principles that different terms in the same claim are to be given different meanings. *See Digital-Vending Servs. Int'l, LLC v. Univ. of Phoenix, Inc.,* 672 F.3d 1270, 1275 (Fed. Cir. 2012) ("This construction is thus contrary to the well-established rule that "claims are interpreted with an eye toward giving effect to all terms in the claim.) Acuity's proposed construction thus improperly erases the clear distinction between the terms "configured" and "designed" already present in the claims. There is no lexicography or disavowal that warrants rewriting the claims in this manner. Accordingly, the terms "configured to / so" should be construed as "capable of" and Acuity's proposed construction should be rejected.

2. Acuity's Answering Position

The parties' dispute is whether these terms used in the context of the asserted patents should be given their plain and ordinary meaning, which is "designed to" / "designed so" (as consistently construed by other courts), or broadened to "capable of," as Ultravision suggests. Ultravision proposes to broaden these terms because that is necessary for it to continue its infringement claims against the accused products that are configured to provide illumination consistent with certain Illuminating Engineering Society (IES) classifications associated with roadway and flood light applications, rather than configured to illuminate a specific area (regardless of how area is construed). This dispute became apparent in the final stages of the Texas Action, when Ultravision submitted an expert report with an infringement analysis based on a small subset of the space

illuminated by the accused products, rather than the area illuminated by the accused product. As depicted below, Dr. Coleman's testing related to a small portion (rectangular dotted box) of the illumination pattern (represented by various the colors, other than royal blue). Ex. F, *Holophane* Resp. to Opp. Mtn. to Strike at 4. According to Ultravision and Dr. Coleman, the accused products meet the "configured to" limitations because they are "capable of" uniformly illuminating the cherry picked rectangle, even if they are configured to create a far larger illumination pattern.



The intrinsic record does not support Ultravision's proposed broadening of the claim terms. In claim construction, courts first examine the patent's intrinsic evidence to define the patented invention's scope. *See id.; C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs,* 262 F.3d 1258, 1267. The common specifications for the Asserted Patents routinely equate "configured to" and "configured so" to mean "designed to" and "designed so." For example, the common specifications describe that "the optical elements 514 are configured so that the light emitted from each LED 416 is projected onto the entire surface 102 of the billboard 100." '410 Patent at 5:4-6. Configuring the optical elements (*i.e.*, lenses) in this manner allows for the design feature that "if all other LEDs 416 were switched off except for a

single LED 416, the entire surface 102 would be illuminated at the level of illumination provided by the single LED 416." *Id.* at 5:7-9. In the very same paragraph describing this feature, the common specifications state "by designing the lens in such a manner, when all LEDs are operating, the light form the collective thereof will illuminate the surface at the 3:1 ratio." *Id.* at 5:16-19. The applicant used similar designed to language throughout the specification. *See e.g.,* '410 Patent at 5:33-38 ("The minimum distance ***is designed such*** that overlapping light from adjacent LEDs does not create interference patters and result in dead spots on the surface. The lens structure **522** is designed to create the 3:1 uniformity and also, the lens structure is ***designed to*** "direct" the light from an edge of the surface to cover the entire surface."); 5:46-48 ("[w]ith such a ***design***, the lighting assembly can be disposed at an edge of the surface to illuminate the entire surface."); 6:31-38 ("In embodiments where the illumination is evenly distributed across the surface 102, it is understood that the optics panel 206 may be ***configured*** specifically for the light panel 204 and the surface 102. For example, assuming the surface 102 is forty-eight feet wide and sixteen feet high, the lens panel 500 of FIG. 5 may be specifically ***designed for*** use with the PCB 402 of FIG. 4."); 8:6-15("As shown in FIGS. 8D-8H, a single optical element 806 may include multiple lens elements ***designed to*** distribute the illumination provided by a single LED 804 across a surface such as the surface 102 of FIG. 1. . . Multiple optical elements 806 may be combined and formed as a single optics panel 604 that is ***configured to*** operate with the LED assembly 800.").

Similar to the examples above and contrary to Ultravision's assertion, the claims themselves use the terms "configured to" / "configured so" and "designed to" / "designed so" synonymously, and not in a manner that is patentably distinct. *See e.g.,* '738 Patent, Claim 19 ("a lighting assembly configured to illuminate a substantially rectangular region" versus Claim 25 ("A lighting assembly ***designed*** to illuminate a substantially rectangular surface"). In contrast, the

applicant uses the term "capable of" only in connection with a power supply capable of supplying power to LEDs, and not interchangeably with "configured to." *See, e.g.*, '410 Patent at 7:9-12 and cls. 11 and 21; '413 Patent at cl. 11.

Consistent with the applicant's interchangeable use of "configured to" and "designed to," this Court routinely has found that "configured to" is interchangeable with designed to and/or is narrower than capable of. *See, e.g.*, *Sri International, Inc. v. Dell Inc.*, CV 13–737–SLR, 13–1534–SLR, 2015 WL 2265756, *2 (D. Del. May 14, 2015) (construing "adapted to" to mean "configured to", "designed to" or "made to", and rejecting contention that it should have a broader construction of merely being "capable of"); *Mitek Systems, Inc. v. TIS America Inc.*, CV 12-1208-RGA, 2014 WL 3891237, *2 (D. Del. Aug. 6, 2014) (refusing to construe "configured" to mean capable of, but instead construing it to mean "arranged or set-up to perform a specified function"); *InterDigital Communications, Inc. v. ZTE Corp*., CV 13–00009–RGA, 13–00010–RGA, WL 1620733, *6 (D. Del. Apr. 22, 2014) (construing "configured to communicate" to require an automatic communication based on the summary of the invention stating that the patented invention solved a problem of manual selection and rejecting patentee's broad proposed construction of operable/arranged to transmit and/or receive data).

These findings are consistent with similar findings by the Federal Circuit. For example, in *In re Man Machine*, 822 F.3d 1282 (Fed. Cir. 2016), the Federal Circuit found "designed to," "configured to," and "made to" as interchangeable. *Id*. at 1286 (also finding the term "capable of" to be broader) Similarly, in *In re Man Machine*, the Federal Circuit again found "configured to" interchangeable with "designed to" with both being a replacement for adapted to, in view of the claims and specification. *Id*. at 1286-1287.

Ultravision relies on *Aspex Eyewear Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335 (Fed. Cir. 2012) to suggest otherwise, but Ultravision's characterization of *Aspex Eyewear* is incorrect. In *Aspex Eyewear*, the court noted that "[i]n common parlance, the phrase "adapted to" is frequently used to mean "made to," "designed to," or "configured to," but it can also be used in a broader sense to mean "capable of" or "suitable for." *Id*. at 1349. In other words, the court distinguished "designed to" and "configured to," which have a similar meaning to each other and "capable of" and "suitable for," which have a broader meaning. As explained above, the specification and claims draw the same distinction because they interchangeably use "designed to," or "configured to" and distinguish between "configured to" and "capable of."

3. Ultravision's Reply Position

Acuity's proposed construction represents a continuation of its subsidiaries' attempts to inject a minimum size requirement to the terms "area" and "display surface" through the term "configured to." In the Texas Action, experts for Acuity's subsidiaries read light spillage limitations[15] into the term "configured [to/so]" to argue that display/area size and light fixture distances had to match certain Acuity instruction manuals to infringe. Acuity's subsidiaries relied on these arguments to critique Dr. Coleman's representative testing on a 5x11 ft. Junior Poster billboard – not, a "cherry picked rectangle," as Acuity suggests. Response at 51. Ultravision seeks to construe "configured to/so" consistent with its usage in the Asserted Claims, to avoid further arguments for minimum size and distance requirements based on the alleged intent of Acuity's instruction manuals.

[15] For example, the limitation of Claim 7 of the '410 Patent, reciting "wherein areas beyond edges of the display surface receive substantially no illumination."

Acuity fails to explain the patentee's distinct usage of the terms "configured to" and "designed for" in the Asserted Claims, which suggests a broader meaning of the term "configured to," such as in claim 1 of the '946 Patent.

Acuity's Response also acknowledges that "'configured to' is interchangeable with 'designed.'" Response at 51-52. Accordingly, Acuity's attempt to narrow the meaning of "configured to" to an area and light fixture distance based on its instruction manuals should be rejected.

4. Acuity's Sur-Reply Position

"Configured to" has routinely been construed to mean "designed to" and to be narrower than "capable of." *See* Response at 53-54. Ultravision's Reply does not dispute nor distinguish Acuity's case law support for its construction; such construction also being consistent with the intrinsic record and the plain and ordinary meaning of the term.

Ultravision's Reply argument, instead, reverts back to its expert's contrived infringement in the Texas Action. There, Ultravision also accused defendants of reading in limitations. But Ultravision really is trying to eviscerate the uniformity limitations of the claims so that they can ensnare all manners of outdoor lighting. This issue can be framed in the following rhetorical question: Is a car headlight configured to illuminate an envelope? The answer is unquestionably no, but according to Ultravision's logic the answer would be yes. Although a headlight projects a wide illumination pattern to assist a driver with seeing the road, Ultravision's argument is akin to saying the headlight is *capable of* projecting uniform illumination over a 10-inch-by-5-inch envelope in the middle of the pattern, even though that clearly is not what the headlight was *configured to* do.

G. Term 7: "[optics panel is configured to be attached to] a heat sink comprising a power supply enclosure disposed on the heat sink" / "heat sink"

Term	Ultravision's Proposal	Acuity's Proposal
"[optics panel is configured to be attached to] a heat sink comprising a power supply enclosure disposed on the heat sink" / "heat sink"	"structure that aids in the dissipation of heat" Heat sink term: plain and ordinary meaning	"[optics panel is configured to be attached to] a structure for increasing heat dissipation from the optics panel on which a power supply enclosure is placed or arranged" Or Indefinite

1. Ultravision's Opening Position

This claim phrase appears in the context of the optics panel being "configured to be attached to a heat sink comprising a power supply enclosure disposed on the heat sink." Defendants attempt to define "heat sink" as "a structure for increasing heat dissipation from the optics panel," and attempt to define "comprising a power supply enclosure disposed on the heat sink" as "on which a power supply enclosure is placed or arranged." Because the claim does not specifically require the heat sink to dissipate heat *from the optics panel*, and because it is reasonably clear to a POSITA that the claim requires that the heat sink form an enclosure for the power supply, which is disposed on the heat sink, this re-writing of the claim should be rejected. The Texas Court rejected Acuity's proposed construction, and Ultravision submits that this Court should reject Acuity's proposal for the same reasons. Ex. 6 at 37-41.

First, regarding the term "heat sink," Acuity's proposal ignores that a heat sink may dissipate heat from sources other than the optics panel. For example, the heat sink may dissipate heat from the power supply that is disposed on or within it. Ex. 1, 7:12-16; *see also* Ex. 7 at ¶ 45. There is no dispute that the heatsink in the embodiments of the patents dissipate heat from the

heat-generating elements of the panels: the LED's and the power supply. Defendants have identified no need to specify in this construction which components have their heat dissipated by the heat sink, except to manufacture a non-infringement argument. Since Acuity's construction seeks only to introduce an ambiguity and not to clarify claim scope for the jury, its construction should be rejected, and "heat sink" should be construed as a "structure that aids in the dissipation of heat."

Second, the term "comprising a power supply enclosure disposed on the heat sink" need not be construed because it would be reasonably clear to one of ordinary skill in the art that it refers to a heat sink which itself forms an enclosure for the power supply that is disposed on the heat sink. Two figures from the specification are informative.

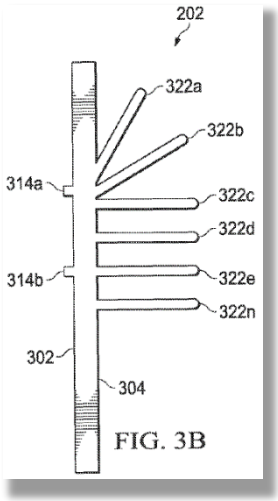


FIG. 3B

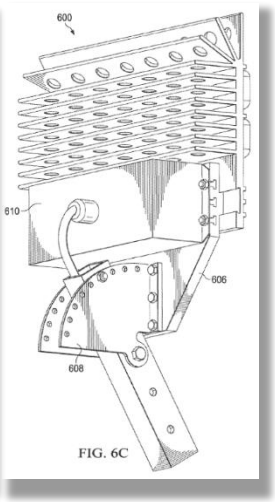


FIG. 6C

Figure 3B discloses that the back surface of the light panel 304 may comprise a heat sink provided by fins 322 (Ex. 1, 3:64-67), and Figure 6C discloses a power supply enclosure 610 mounted to the heat sink. A person of ordinary skill in the art would readily understand that power supply enclosure 610 is part of the heat sink, particularly in view of the specification's teaching that "separating the power supply from the back panel 602," *i.e.* by mounting it to enclosure 610 instead, "may aid in heat dissipation by the back panel 602 as it does not have to dissipate heat from the power supply to the same extent as if the power supply was mounted directly to the back panel. Ex. 1, 7:12-16; *see also* Ex. 7 at ¶ 44. Because this phrase is readily understandable to the person of ordinary skill in the art, it is not indefinite, and need not be construed.

Accordingly, "heat sink" should be construed as "structure that aids in the dissipation of heat," and the remainder of this term need not be construed.

2. Acuity's Answering Position

Claim 11 of the '410 and '413 Patents claims a heat sink that comprises itself and a power supply enclosure disposed on the heat sink. On its own, this phrase would not be reasonably certain to a skilled artisan because it requires: (i) a heat sink that comprises itself and (ii) a heat generator, *i.e.*, the power supply enclosure, disposed on it. To resolve the inherent ambiguity, Acuity proposes a construction that makes clear that the heat sink, which the claim requires be attached to the optics panel (another heat generator), dissipates heat from the optics panel. In fact, that patent specification makes clear using similar language that the heat sink dissipates heat from the optics panel and that the power supply enclosure is placed away from the optics panel so as to aid the dissipation of heat from the optics panel.

For context, the '410 and '413 Patents identify heat dissipation as a problem with prior art "LEDs in an exterior lighting environment." '410 Patent at 2:65-67. The '410 and '413 Patents first propose to solve that problem by attaching a back panel (or back surface) with an increased surface area to a panel of LEDs so as to dissipate heat. '410 Patent at 3:18-21, 3:64-4:3. In other words, the back panel with increased surface area will be a heat sink. The '410 and '413 Patents further propose to solve that problem by "separating the power supply from the back panel," to "aid in heat dissipation by the back panel as it does not have to dissipate heat from the power supply to the same extent." '410 Patent at 7:12-16. As described in the specification,

> The lighting assembly 600 is also illustrated with a mounting plate 606 that couples to the back panel 602 and to an adjustable mounting bracket 608. . . . A power supply enclosure 610 may be coupled to the mounting plate 606 and configured contain a power supply (not shown) capable of supplying power to LEDs of the LED assemblies 800. It is noted that separating the power supply from the back panel 602 may aid in heat dissipation by the back panel 602 as it does not have to

> dissipate heat from the power supply to the same extent as if the power supply was mounted directly to the back panel 602.

'410 Patent at 7:4-16. This configuration is depicted in Figure 6C, which is the claimed embodiment, as Ultravision concedes on page 57 of its Opening Brief. Op. Br. at 57. A skilled artisan would unmistakably understand that the heat sink of Figure 6C is dissipating heat from the LEDs of the optics panel to which it is attached, just as claimed. Likewise, a skilled artisan would understand that the power supply enclosure is disposed on the lower portion of the heat sink of Figure 6C, as claimed and as Dr. Coleman agrees. Ex. A, Coleman Depo. at 74:4-75:7, 80:16-25. In other words, the Figure 6C embodiment is consistent with the claim limitation, as construed by Defendant and analyzed by Dr. Coleman.[16]

Despite the apparent agreement between Defendant and Ultravision's experts, Ultravision argues that this limitation should not be construed to require that the heat sink dissipates heat from the optics panel. Ultravision's motivation is clear once again – its infringement theory is premised on the heat sink limitation being satisfied by random metal adjacent to the power supply, but that may be distant from the optics panel. In other words, Ultravision's application of the "plain and ordinary meaning" of this limitation is that all of the components of a lighting assembly are "attached" to the optics panel, even if they are not directly attached to each other, and that the heat sink need not dissipate heat from the optics panel, that includes LEDs.

Not only is Ultravision's application of the claim divorced from the specification and the rest of the claim, it leaves open the question of how can a "heat sink" comprise (*i.e.*, include) an element (*e.g.*, a power supply enclosure which is a heat generator) and still be characterized as a heat sink? Ex. C, Josefowicz Decl. at ¶ 61 (a skilled artisan would understand that there are two

[16] In contrast, Figure 3B is not a claimed embodiment because, as Dr. Coleman confirmed, Figure 3B does not include a heat sink that includes a "power supply enclosure." Ex. A, Coleman Depo. at 81:23-82:1.

primary sources of heat during the operation of a LED luminaire. One source is the power supply . . . .). Acuity's construction resolves the parties' *O2 Micro* dispute and clarifies the uncertainty that would exist in the absence of a construction, thereby, rending the claims indefinite. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.,* 521 F.3d 1351, 1360-1361 (Fed. Cir. 2008) ("A determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on the term's 'ordinary' meaning does not resolve the parties' dispute.").

3. Ultravision's Reply Position

The parties agree that a heat sink is a structure that aids in the dissipation of heat. The only issues in dispute are whether "a heat sink comprising a power supply enclosure disposed on the heat sink:" (1) requires that a heat sink also comprise a power supply enclosure (it does); (2) requires that heat be dissipated "from the optics panel" (it does not); and (3) is indefinite (it is not).

First, a POSITA would be reasonably certain that this term requires that a heat sink itself comprise the power supply enclosure based on its plain language. Acuity acknowledges that "[o]n its own" this term requires a heat sink that comprises itself, and "the power supply enclosure, disposed on it." Response at 58-60. Rather than seeking to clarify this meaning, Acuity attempts to change it by removing the "power supply enclosure" from the scope of the "heat sink." Acuity justifies this improper broadening by arguing that the power supply enclosure (as opposed to the power supply) is a heat generator and arguing that a heat sink cannot include a "heat generator." Response at 58-60. Acuity cannot support either proposition nor can it explain why a POSITA would fail to recognize scope of a claim term that is apparent to Acuity "[o]n its own." To the contrary, a power supply enclosure does not generate heat because it is simply a structure (*e.g.* a metal box) enclosing a power supply. Under Acuity's logic, the entire heat sink would "generate" heat from the power supply and LEDs.

Second, Acuity's requirement that the heat sink "increase heat dissipation from the optics panel" is unnecessary and unsupported. Acuity does not appear to dispute that a heat sink may dissipate heat from other sources, such as the power supply. To rewrite the claim with a required heat source only introduces ambiguity, and risks confusing a jury into requiring that the optics panel be the ***only*** heat source.

Finally, this term is not indefinite simply because it requires that a heat sink comprise both (i) itself and (ii) a power supply enclosure. While redundant, the requirement that a heat sink comprise itself does not render the claim ambiguous. Acuity recognizes that the term includes these elements "on its own," and a POSITA would arrive at the same conclusion.

4. Acuity's Sur-Reply Position

The power supply enclosure encloses the heat generating power supply. For that reason, Figure 6C and the specification make clear that the power supply enclosure should be distanced from the heat sink that dissipates heat from the optics panel, which also generates heat: "[a] power supply enclosure **610** may be coupled to the mounting plate **606** and configured contain a power supply (not shown) capable of supplying power to LEDs of the LED assemblies **800**. It is noted that separating the power supply from the back panel 602 may aid in heat dissipation by the back panel 602 as it does not have to dissipate heat from the power supply to the same extent as if the power supply was mounted directly to the back panel 602." '410 Patent at 7:9-16. In other words, the specification is consistent with the plain language of the claims and both make clear that the heat sink dissipates heat from the optics panel. Acuity's construction is consistent with that plain meaning; Ultravision's is not.

H. Term 8: 3:1 Ratio Limitations

Term	Ultravision's Proposal	Acuity's Proposal
3:1 Ratio Limitations: "[average illumination to minimum illumination uniformity ratio] is 3:1" / "[a ratio of the average illumination from that LED across the entire display surface to the minimum illumination from that LED at any point on the display surface] is 3:1" / "[a ratio of the average illumination from each of the LEDs across the entire display surface to the minimum illumination at any point on the display surface from each of the LEDs] is 3:1." / "[a ratio of the average illumination from that LED across the entire display surface to the minimum illumination from that LED at any point on the display surface] is 3:1" / "[ratio of the average illumination from each LED across the entire display surface to the minimum illumination from that LED at any point on the display surface] [[to]] is 3:1"	"achieves 3:1"	Plain and ordinary meaning (i.e., "is 3:1" means has a ratio of 3:1)

1. Ultravision's Opening Position

This claim term appears in exemplary claim 14 of the '410 Patent, which recites an optics panel "wherein the light from each lens is directed across the entire display surface of the billboard so that, for each LED, a ratio of the average illumination from that LED across the entire display surface to the minimum illumination from that LED at any point on the display surface is 3:1." Ex. 1 at 9:31-36.

In the context of the claims and specification, a person of ordinary skill in the art would understand the term "is 3:1" to mean "achieves 3:1," including ratios which are better (i.e. more uniform) than 3:1. This is clear from the specification of the '410 Patent where "evenly" is described as "illumination with a uniformity that achieves a 3:1 ratio of the average to minimum." (5:14-16, emphasis added). This usage is consistent with the plain and ordinary meaning of uniformity ratios in the industry, where a person of ordinary skill in the art would understand that "[u]niformity ratios are targets that define the widest recommended ranges" and include the range of uniformities that achieve that target. Ex. 7 at ¶ 51 (citing Lighting Handbook, Ex. 11 at Section 26.3.4).

Accordingly, the term "is 3:1" should be construed as "achieves 3:1," consistent with the specification and customary usage of uniformity ratios in industry.

2. Acuity's Answering Position

The claims of the Patents-in-Suit separately use the phrases "is 3:1" (*see, e.g.*, '410 Patent at cls. 5, 14 and 20) and "achieves at most a 3:1" (*see, e.g.*, '248 Patent, claims 1, 10, 11, 17) to describe the claimed ratio of average to minimum illumination. Unlike other terms that are used interchangeably, there is no indication that these terms are intended to be used interchangeably, and the words "is" and "achieves" are not generally understood to be interchangeable.

Yet, Ultravision seeks to rewrite and broaden the claim that use the phrase ratio "is 3:1" to mean any ratio of average to minimum illumination that is 3:1 or less, i.e., achieves 3:1. Whereas here, the applicant distinguished the two claimed ratios by using different language, *i.e.*, is versus achieves, a skilled artisan would understand that these terms have different meanings, both of which are well understood and not in need of additional construction. It is a "common sense notion that different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope." *Karlin Tech. Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971–72 (Fed. Cir. 1999). "To the extent that the absence of such difference in meaning and scope would make a claim superfluous, the doctrine of claim differentiation states the presumption that the difference between claims is significant." *Tandon Corp. v. U.S. Int'l Trade Comm'n*, 831 F.2d 1017, 1023 (Fed. Cir. 1987). Finally, Ultravision's reliance on the opinions of its expert should be discounted because Dr. Coleman at his deposition could not explain why his expressed opinion did not account for the claims that state "achieves at most a 3:1" other than that was not the analysis he was asked to perform. (Ex. A, Coleman Depo. at 96:3-25).

3. Ultravision's Reply Position

Acuity's own expert acknowledges that illumination ratios denote targets, which a light fixture may "achieve" by surpassing: "[t]he use of ratios like three to one [] which is commonly used maximum to minimum . . . is a target for luminaire manufacturers to be within, but for different applications ***that's all it is, it's just a target***." Ex. 24 at 86:12-18 (emphasis added). A POSITA would understand the illumination ratios used in the patent claims to be targets that are satisfied by better (*i.e.* lower) ratios.

The use of the term "at most 3:1" in the later-filed '248 Patent cannot alter the well understood meaning of the term "is 3:1" as used throughout the other Asserted Patents. Illumination ratios are well-understood to refer to targets, and the Asserted Patents discuss

"achieving" an illumination ratio consistent with that meaning. While a POSITA may understand the usage of "at most 3:1" in the '248 Patent to clarify the scope of the claims ***to a lay person***, that would not alter the well-established meaning of target ratios used in the other patents.

4. Acuity's Sur-Reply Position

"Is" and "at most" are two different terms with two different plain and ordinary meanings. "Is" is not ambiguous as used in the claims and its usage in the claims is consistent with the intrinsic record. Thus a construction is not necessary. And even if a construction were appropriate (it is not), Ultravision fails to explain why a skilled artisan would understand "is 3:1" to mean "at most 3:1", when the applicants used these terms distinctly in the claims of the Patents-in-Suit. Accordingly, there is no basis to construe "is" to mean "at most."

To support its illogical construction, Ultravision relies on a mischaracterization of Acuity's expert's deposition testimony related to IES specifications and not the intrinsic record. Rep. Br. at 65; Ex. 24 at 86:6-10 ("***In IES specifications*** for a variety of different applications includes signage or street lights or other applications, there is guidance and the guidance is meant to provide a target for lighting related to uniformity."). Indeed, Acuity's expert was not discussing whether "is 3:1" as used in the claims should mean something else.

I. Term 9: "optics panel"

Term	Ultravision's Proposal	Acuity's Proposal
"optics panel"	Plain and ordinary meaning, where the plain and ordinary meaning is "a panel containing at least one optical substrate"	"one or more panels of lenses"

1. Ultravision's Opening Position

The '410 and '413 Patents claim a system called an "optics panel" in each apparatus claim at issue. Acuity seeks to construe this term as "one or more panels of lenses," but this construction

should be rejected because it is inconsistent with claim language reciting "a plurality of lenses" (not a "panel of lenses") because it creates ambiguity by redundantly reciting elements addressed in other limitations, and because it is unsupported by any lexicography or disclaimer. Instead, this term should be afforded its plain and ordinary meaning which, to the extent any construction is needed, is "a panel containing at least one optical substrate or lens."

First, Acuity's proposal is improper because it adds unclaimed limitations into the term "optics panel," thereby reading embodiments without a "panel of lenses" out of certain claims. Embodiments of "lens panel," such as lens panel 500 depicted below, are described in some claims as a "substrate comprising a plurality of optical elements." Compare '410 Patent, Claim 1 with *id.* at 4:43-57.

But this recitation contrasts with claim 10 of the '410 Patent which instead recites "[a]n optics panel . . . comprising . . . a plurality of lenses, wherein each lens is disposed over only one associated LED." Claim 10 does not include a requirement that every lens be part of the same "panel" (*e.g.* a substrate). Figures 8D-I are instructive, as they depict separate optical elements 806 (e.g. lenses) which may be disposed over an associated LED. Moreover, the specification explicitly teaches that "[m]ultiple optical elements 806 may be combined and formed as a single optics panel 604. . ." Acuity's proposal should be rejected because it would improperly limit the scope of this claim in the absence of lexicography or disclaimer, and would read embodiments depicted in Figure 8 out of the claims. *See Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) ("a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.")

Second, Acuity's proposal should be rejected because it is redundant and needlessly adds ambiguity to the claims at issue. Each claim already includes limitations specific to a required

arrangement of optics comprised by an optics panel of a lighting assembly. *See e.g.*, '410 Patent, Claim 1 ("a substantially transparent substrate comprising a plurality of optical elements disposed over the plurality of LEDs. . ."); *id.*, Claim 10 ("a plurality of lenses, wherein each lens is disposed over only one associated LED."). Adding the term "panels of lenses" is improperly superfluous and would only lead to confusion given overlap with those existing limitations. *See Digital-Vending Servs. Int'l, LLC v. Univ. of Phoenix, Inc.*, 672 F.3d 1270, 1275 (Fed. Cir. 2012) ("This construction is thus contrary to the well-established rule that 'claims are interpreted with an eye toward giving effect to all terms in the claim.'").

Thus, "optics panel" should be afforded its plain and ordinary meaning. To the extent any articulation of the plain and ordinary meaning is necessary that should be construed as "a panel containing at least one optical substrate or lens," consistent with the usage of the term in the Asserted Patents.

2. Acuity's Answering Position

Every claim implicated by this dispute requires an optics panel that includes "a plurality of optical elements" or a "plurality of lenses." Given this plain language of the claims, Ultravision's proposed construction of optics panel to require only "at least one optical substrate or lens" does not capture the minimum scope of the claims and only can serve to confuse, if not mislead, the jury. Moreover, Ultravision's proposed construction is wrong, in view of the specification.

In the specification, the applicant identified the optics panel as one or more lens panels:

'410 Patent at 4:43-49:

> "Referring to FIGS. 5A, 5B, 5C and 5D, one embodiment of a single lens panel 500 of the optics panel 206 is illustrated. In the present example, ***the optics panel 206 may include multiple lens panels 500, although it is understood that any number of lens panels*** may be used based on design issues such as the number, arrangement, and orientation of the LEDs 416, the size of the surface 102, and/or other factors."

Id. at 6:55-64:

> The lighting assembly 600 includes a back panel 602, a light panel formed by multiple LED assemblies (denoted by reference number 800 in FIG. 8A), and an ***optics panel formed by multiple lens panels 604***. Accordingly, as described previously, the light panel 204 in the current example is represented by multiple LED assemblies 800 ***and the optics panel 206 is represented by multiple lens panels 604***. In the present embodiment, the lighting assembly 600 includes four LED assemblies 800 and four lens panels 604.

(Emphasis added). Acuity's proposed construction is consistent with these statements defining an "optics panel" (*i.e.*, one or more panels of lenses).

It likewise is consistent with the specification's discussion of the optics panel in the context of Figures 8A-8J. First, as the claims make clear, they require a plurality of lenses and not a single lens depicted in Figures 8A-8J, as Ultravision suggests in its Opening Brief at 66. Op. Br. at 66. Second, the specification describes the "single optics panel 604" depicted in Figures 8A, 8B and 8C as also being "single lens panel 604": "[w]ith additional reference to FIGS. 8A-8J, embodiments of a single LED assembly 800 and ***a single lens panel 604 that may be used with the lighting assembly 600 are illustrated***. As shown, the single LED assembly 800 and ***the single optics panel 604*** may be configured for use together." '410 Patent at 7:52-54. In other words, when the optics panel is made up of a single lens panel, the two are the same, as reflected in Acuity's use of the phrase *one or more* panels.

Furthermore, none of the embodiments in the Asserted Patent describe or depict a lens panel 500 having only one "optical element" (*i.e.*, lens). What the common specification does describe is that the physical arrangement of "multiple optical elements 514" to LEDs may vary. '410 Patent at 4:64-5:3 ("A single optical element 514 may be provided for each LED 416, a single optical element 514 may be provided for multiple LEDs 416, and/or multiple optical elements 514 may be provided for a single LED 416"). But none of these embodiments contemplate that a lens panel may have only one lens.

Ultravision's remaining argument is that Claim 10 of the '410 Patent does not include a requirement that every lens be part of the same "panel." Op. Br. at 66-67. The parties have already agreed that the preamble is limiting and, consequently, the preamble of Claim 10, which describes "the optics panel comprising:" simply refers to a single lens panel with "a plurality of lenses" that is both consistent with the claim language and Acuity's proposed construction. Acuity's proposed construction embodies the proposition that an "optics panel" may have a "single lens panel" which is consistent with the common specification. 4:43-57 ("Referring to FIGS. 5A, **5**B, **5**C and **5**D, one embodiment of ***a single lens panel 500 of the optics panel 206*** is illustrated."). The specification makes clear that a "lighting assembly 200 includes a back panel 202, a light panel 204 (e.g., a printed circuit board (PCB)) having a plurality of LEDs (not shown) mounted thereon, and ***an optics panel 206***." '410 Patent at 3:12-15. Ultravision's argument related to the patentee's choice to use the term "optics panel" in the preamble to describe a structural element comprising a "plurality of lenses" is irrelevant because Acuity's proposed construction is consistent and not at odds with the claim limitations.

3. Ultravision's Reply Position

The Asserted Claims recite an "optics panel" which may comprise lenses disposed over a plurality of LEDs, without any reference to a "panel" or "substrate" of lenses. *See* Brief at 65-66. There is no lexicography or disclaimer supporting Acuity's requirement that each lens must be part of a panel with multiple lenses.

Acuity acknowledges that its construction seeks to read the specification embodiment that "the optics panel 206 may include multiple lens panels 500" into the claims. Response at 69. Because Acuity fails to identify any lexicography or disclaimer to support its construction, its attempt to limit the claims to specification embodiments must be rejected. *See Liebel-Flarsheim*, 358 F.3d at 906.

Acuity also argues that the singular "optics panel" recited in the preamble of claim 10 requires that its lenses be part of the same "panel," but fails to address that the "optics panel" is described as including multiple different panels or substrates. Instead, Acuity conflates specification disclosure of the "optics panel 206" with the "lens panel 500" to argue that "'the optics panel comprising:' simply refers to a single lens panel 'with a plurality of lenses.'" Response at 69. Acuity's position is logically inconsistent. It cannot be that an "optics panel" normally includes multiple different substrates (i.e. lens panels), but includes only one substrate when the claim does not recite an optical substrate or lens panel at all. To give meaning to the patentee's decision to claim "a plurality of lenses" distinctly from a "substantially transparent substrate," the term "optics panel" should instead be read consistently to allow multiple substrates (including substrates with only one lens). *See Dig.-Vending Servs. Int'l, LLC v. Univ. of Phoenix, Inc.*, 672 F.3d 1270, 1275 (Fed. Cir. 2012). Accordingly, the term "optics panel" should be given its ordinary meaning, i.e., "a panel containing at least one optical substrate or lens."

4. Acuity's Sur-Reply Position

To repeat, every asserted claim that includes this term requires that the optics panel comprise "a plurality of [optical elements or lenses]." Yet, Ultravision argues for a construction of optics panel that requires only one lens. Why? This necessarily would confuse the jury and it is inconsistent with the plain language of the claims. One can only guess why Ultravision is proposing that the claimed optics panel contain only one lens. If the Court determines that this claim needs to be construed pursuant to *O2 Micro*, it should adopt a construction that is consistent with the claims and the intrinsic record, *i.e.*, Acuity's construction.

J. Term 10: Optical Element/Lens to LED limitations

Term	Ultravision's Proposal	Acuity's Proposal
Optical Element/Lens to LED limitations: "wherein each lens is disposed over only one associated LED" / "each optical element disposed over only one associated LED" / "each optical element is disposed over only one associated LED" / "each optical element overlies only one associated LED" / "each optical element overlies only one associated LED" / "each convex optical element overlying an associated one of the LEDs" / "each optical element . . . overlies a respective one of the LEDs"	Plain and ordinary meaning, where the plain and ordinary meaning is "each [lens/optical element/convex optical element] is disposed on top of one LED of the plurality of LEDs"	Plain and ordinary meaning

1. Ultravision's Opening Position

Ultravision agrees to Acuity's proposed construction in order to narrow the dispute before the Court.

2. Acuity's Answering Position

The parties identified in their list of ten terms for briefing and argument a group of terms in the Asserted Claims that relate to each "optical element" or "lens" being positioned over "only

one associated LED." Ex. G, Joint Identification of Terms to Court at 2. Acuity proposed a plain and ordinary meaning for the terms, and Ultravision proposed a construction that it contends allow multiple uncounted LEDs to be positioned under the optical element or lens. Again, this claim construction dispute came to light based on Ultravision accusing products in which each "optical element" or "lens" is disposed over seven LEDs, not "only one associated LED" as required in each of the Asserted Claims for these terms. *See e.g.,* Ex. H, *UV* Infr. Cont. App. D-3 at 4-5. That led to summary judgment briefing in the Texas action that was not resolved, and Ultravision was on notice of the parties' competing claim interpretations.

There simply is only one reasonable claim interpretation for these terms because "only one" can mean only one thing – a one-to-one relationship between the claimed lenses and the one LED that is associated with the lens, *i.e.*, disposed under it. In addition to being contrary to the plain language of the claims, Ultravision's interpretation is contrary to other claims in which the patentee explicitly claimed a lens disposed over one or more LEDs or allowed for such an interpretation. *See, e.g.,* '946 Patent at Claim 1 ("each convex optical element overlying an associated one or more of the LEDs"); '410 Patent Claim 15 ("the plurality of optical elements disposed over the plurality of LEDs and configured to direct light from each of the plurality of LEDs", Claim 21 ("the plurality of optical elements disposed over the plurality of LEDs and configured to direct light from each of the plurality of LEDs"). Likewise, to the extent Ultravision argues that "comprising" permits an expanded plain and ordinary construction, this would be inconsistent with claim construction principles. *See KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000) (transitional phrase "comprising" means including but not limited to.); *Liberty Ammunition, Inc. v. United States*, 835 F.3d 1388, 1399 (Fed. Cir. 2016) ("our prior decisions have warned against using terms such as "comprising," or "including," as

"weasel word[s] with which to abrogate claim limitations") citing *Dippin' Dots, Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed. Cir. 2007) (quoting *Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1380 (Fed. Cir. 1998) (comprising may not alter the scope of recited claim elements).

By dropping its claim construction argument and conceding to Acuity's construction, Acuity understands that Ultravision does not contend that these limitations encompass multiple LEDs disposed under the optical element or lens. To the extent that Ultravision intends to re-raise this issue in the future, Acuity contends that Ultravision waived its arguments by failing to brief them here, particularly given that Acuity had to agree to drop other claim construction disputes to allow for briefing on optical element/lens to LED limitations. Ex. G, Joint Identification of Terms.

3. Ultravision's Reply Position

The Parties agree that the plain and ordinary meaning of these terms applies.

4. Acuity's Sur-Reply Position

Acuity understands that Ultravision agrees with Acuity's understanding that the limitations can mean only one thing – a one-to-one relationship between the claimed lenses and the one LED that is associated with the lens; *i.e.*, disposed under it, as briefed at the Response, pp. 73. Ultravision did not identify any disagreement with Acuity's argument, despite Ultravision's infringement contentions reflecting that there are multiple LEDs under some of the accused lenses. *See e.g.*, Ex. H, *UV* Infr. Cont. App. D-3 at 4-5. Nevertheless, Acuity understands that Ultravision is waiving that infringement argument, as reflected in its claim construction Reply.

Respectfully submitted,

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